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NATIONAL HISTORICAL PARK / MASSACHUSETTS



DRAFT GENERAL MANAGEMENT PLAN
ENVIRONMENTAL ASSESSMENT
LAND PROTECTION PLAN

MINUTE MAN NATIONAL HISTORICAL PARK
Massachusetts



SUMMARY

This document presents a general management plan proposal with alternatives, an analysis of environmental impacts, and a land protection plan for Minute Man National Historical Park. The park was established by Public Law 86-321 in 1959 to "consolidate, preserve, selectively restore and interpret portions of the Lexington-Concord Battle Road, as well as associated structures, properties and sites so that the visitor may better appreciate and understand the beginning of the American Revolution as a significant chapter in the American Historical Heritage." The park is comprised of the area around The North Bridge in Concord, a 4-mile-long portion of The Battle Road from Meriam's Corner in Concord to Fiske Hill in Lexington, and The Wayside, which was the home of prominent 19th-century literary figures.

The proposed plan sets forth basic management strategies that will ensure the protection of the park's significant cultural resources, provide better opportunities for visitor understanding of the events of April 19, 1775, and provide facilities needed for visitors to appreciate the park's unique resources.

BATTLE ROAD UNIT

The plan for this unit recommends a three-phase concept that would result in the restoration of the 1775 environment within the unit to provide a flavor of the physical conditions that existed on April 19, 1775. The visitor experience emphasizes walking on The Battle Road and receiving interpretation in a variety of forms along the way. When presented to the public early in the planning process, the proposed concept received overwhelming support.

The proposal includes restoring The Battle Road to its approximate historic, unpaved surface, preserving the historic buildings, and restoring the general landscape character.

A major part of the proposal is the relocation of Route 2A, allowing removal of traffic and modern pavement from The Battle Road--a park resource of primary importance to American history. This plan analyzes various corridor options for relocation of 2A and proposes the route that would result in the least impacts on local residents and the environment.

Along with the proposed plan, a minimum requirements alternative that would continue basic management strategies was considered. In addition, two other alternatives for the Battle Road unit were examined; these are summarized below:

String of Pearls - Under this alternative the re-creation of the historic scene recommended in the proposal would be accomplished only at selected nodes, while the existing 2A alignment would remain in place within the park.

Tour Road - This alternative is similar to the proposal, which requires construction of a bypass for 2A and re-creation of the 1775 scene. However, rather than restoring The Battle Road to its historical appearance, this alternative provides for a paved tour road to follow the basic alignment of the historic road.

NORTH BRIDGE UNIT

The plan outlines steps providing for additional visitors to experience the North Bridge unit. The three major elements of the proposal address problems of inadequate visitor parking, unsafe access, and poor site circulation. Among the recommendations are expanded parking facilities and curtailment of certain visitor functions to shorten visitors' length of stay in the unit. Later phases call for further expansion of facilities if needed.

In addition to a minimum requirements alternative, another alternative was considered at North Bridge:

Close Monument Street - This alternative would close Monument Street to through-traffic on either side of Flint Bridge and reroute local traffic in and out of Concord Center via Liberty Street and Lowell Road. Visitor contact and orientation exhibits would be moved to the Elisha Jones House although park administration would remain at the Buttrick Mansion.

THE WAYSIDE UNIT

The plan recommends no change in the management and operation of the park's Wayside unit, but does call for additional restoration work and implementation of existing historic furnishings and historic grounds plans for the site.

ENVIRONMENTAL ASSESSMENT

The environmental assessment discussions in each park unit analyze the impacts that would result from implementation of the proposal and alternatives. Potential effects on cultural resources, natural resources, visitors, park administration and operations, and local and regional transportation are assessed.

LAND PROTECTION PLAN

The land protection plan component of the document addresses the relation of each private tract and some federally owned tracts to the draft general management plan proposal. These tracts and some adjacent lands outside the park boundary are examined with consideration for their current or potential ability to affect (1) the historic resources the park

was created to protect, (2) the historic scene which adds depth to the interpretation of those resources, (3) the viewshed which allows the scene and its integral resources to be experienced in an appropriate historical context, and (4) public and private rights-of-way across park lands. The land protection plan explores techniques for preserving the resources of Minute Man National Historical Park while recognizing that the park is but one land-managing entity in this evolving section of the greater Boston metropolitan area.

CONTENTS

INTRODUCTION	1
Purpose and Need for the Plan	1
The Planning Process	2

DESCRIPTION OF THE PARK AND EXISTING CONDITIONS

REGIONAL SETTING	5
SIGNIFICANCE OF THE PARK	11
CULTURAL RESOURCES	15
NATURAL RESOURCES	19
VISITOR USE AND DEVELOPMENT	27

THE DRAFT PLAN/ENVIRONMENTAL ASSESSMENT

INTRODUCTION	31
--------------	----

THE BATTLE ROAD UNIT	33
Proposal	33
Alternatives	52
Environmental Impacts of the Proposal and Alternatives	61
Estimated Development Costs and Phasing Schedule	72
Description and Analysis of Route 2A Relocation - Corridor Options	78

THE NORTH BRIDGE UNIT	98
-----------------------	----

Proposal	98
Alternatives	102
Environmental Impacts of the Proposal and Alternatives	113
Estimated Development Costs and Phasing Schedule	116

THE WAYSIDE UNIT	118
------------------	-----

Proposal	118
Estimated Development Costs and Phasing Schedule	119

MANAGEMENT ZONING	120
-------------------	-----

LAND PROTECTION PLAN

INTRODUCTION	127
CURRENT LANDOWNERSHIP AND USES	130
PROTECTION ALTERNATIVES	134

CONSULTATION AND COORDINATION

SUMMARY OF PUBLIC INVOLVEMENT	155
STATUS OF LEGISLATIVE COMPLIANCE	158
AGENCIES AND ORGANIZATIONS CONSULTED	160

APPENDICES/BIBLIOGRAPHY/PLANNING TEAM

APPENDIXES

A: Management Objectives	165
B: Traffic Data	167
C: Description of Cultural Resources	168
D: Visitor Use Data	194
E: Classification of Park Roads	196
F: Legislation	200

BIBLIOGRAPHY	204
--------------	-----

PLANNING TEAM AND CONSULTANTS	207
-------------------------------	-----

TABLES

1.	Historic Buildings	17
2.	Proposed Treatments for Cultural Resources - Battle Road Unit	40
3.	Summary of Proposed and Alternative Treatments and Uses of Historic Structures - Battle Road Unit	56
4.	Comparison of Advantages and Disadvantages: Proposal and Alternatives - Battle Road Unit	71
5.	Summary Analysis of Route 2A Relocation - Corridor Options	92
6.	Proposed Treatments for Cultural Resources - North Bridge Unit	99
7.	Summary of Land Protection Proposals	129
8.	Local Planning and Land Use Regulations	177
9.	Land Protection Recommendations by Tract	141

MAPS

Vicinity	6
Existing Conditions	9
Floodplains	21
Wetlands	23
Vegetative Cover	25
Battle Road Unit - Proposal-Phase 1	35
Landscape Replication	43
Battle Road Unit - Proposal-Phase 2	45
Battle Road Unit - Proposal-Phase 3	49
Battle Road Unit - String of Pearls Alternative	57
Battle Road Unit - Tour Road Alternative	59
East End Bypass Corridor Options	81
West End Bypass Corridor Options	87
North Bridge Unit - Existing Conditions	103
North Bridge Unit - Proposal-Phase 1/Minimum Requirements	105
North Bridge Unit - Proposal-Phase 2	107
North Bridge Unit - Proposal-Phase 3	109
North Bridge Unit - Close Monument Street Alternative	111
Management Zoning	123
Land Status - Segment 1	143
Land Status - Segment 2	145
Land Status - Segment 3	147
Land Status - Segment 4	149
Land Status - Segment 5	151

INTRODUCTION

Minute Man National Historical Park in Massachusetts commemorates the outpouring of citizens rallying to a common defense throughout the day of April 19, 1775. On that date, events occurred on the road from Concord to Boston that were to change the history of this country and the world.

When the park was authorized by Public Law 86-321 on September 21, 1959, Congress made a national commitment to preserve a small portion of that scene and instructed the National Park Service to preserve for the benefit of the American people "certain structures and properties of outstanding national significance associated with the opening of the War of the American Revolution." The park is comprised of the area around The North Bridge in Concord, a 4-mile-long portion of The Battle Road from Meriam's Corner in Concord to Fiske Hill in Lexington, and The Wayside--a national historic landmark--which was the home of prominent 19th-century literary figures, Nathaniel Hawthorne, Bronson and Louisa May Alcott, and Harriett Lothrop.

PURPOSE AND NEED FOR THE PLAN

The original master plan for Minute Man National Historical Park was approved in 1965. At that time, it was assumed that State Route 2A would be relocated, thereby removing traffic from the alignment of the historic route. Following this construction, the National Park Service was to take over administration of The Battle Road. Public controversy over the bypass alignment, however, caused the state to delay construction of the new road. Because many of the master plan's proposals were contingent on federal ownership of The Battle Road, only some of them have been implemented.

Since the 1960s, the park has experienced increasing regional development pressures, increasing commuter traffic on area roads and highways, and uncertainty regarding when or if Route 2A will be relocated. Consequently, a new planning effort was initiated to reexamine long-term goals for Minute Man and to explore development and management actions that will enhance visitor enjoyment and resource protection. As a result of that effort, a draft general management plan (GMP) has been prepared that provides the necessary strategies to guide management, development, and use of park lands and resources for the next 10 to 15 years, and describes long-range goals for park development until and after the United States gains ownership of The Battle Road.

Encroaching development on all sides of The Battle Road corridor is limiting options for preserving the 18th-century character of Minute Man National Historical Park. Recognized by the Massachusetts Historical Commission a decade ago as a major problem, development pressures on "rural fringe areas" continue unabated. Evaluation of park lands is needed to determine if additional lands are necessary for the park mission, if acquisition of nonfederal lands within the park boundary is

desirable, or if any lands currently within the park boundary are surplus to park purposes. The "Land Protection Plan" section of this document analyzes these concerns.

THE PLANNING PROCESS

An early component of the GMP effort occurred in 1984 when the Department of Landscape Architecture of Harvard University's Graduate School of Design undertook a student project to investigate alternative futures for the park. A studio group of 13 students formulated and analyzed three different proposals for the park, ranging from partial to complete restoration of The Battle Road corridor. Their study was published in a 1985 booklet entitled "Alternative Futures for Minute Man National Historical Park." The students' creative thinking and the extremely detailed data base that they collected have been of great value to the National Park Service and to the GMP planning team. Some of the Harvard group's work is reflected in this draft plan and environmental assessment.

The GMP addresses a number of specific issues, or park problems, that were identified through discussions with park and regional staff, review of the park's management objectives (see appendix A), and input from the general public and local, state, and federal officials (see "Consultation and Coordination" section).

The "Draft Plan/Environmental Assessment" section of this document presents for public review the National Park Service's proposal as well as alternatives for addressing park problems and future development. The NPS planning process requires the evaluation of impacts of several alternative actions. Factors to be assessed include the effects of all of the alternatives on cultural resources, natural resources, visitors, park administration and operations, and on local and regional transportation. An analysis of impacts of proposals and alternatives for the three units of the park is included.

Following public review of the draft plan, the NPS Regional Director, North Atlantic Region, will determine whether or not changes to the draft are needed, and whether or not an environmental impact statement is required. If an environmental impact statement is deemed necessary, one will be prepared and distributed to the public prior to preparation of the final GMP. Upon completion of the plan, the management guidelines and actions proposed would be implemented as programming and coordination with towns and other agencies permits.

DESCRIPTION OF THE PARK AND EXISTING CONDITIONS



REGIONAL SETTING

LOCATION

Minute Man National Historical Park is located approximately 20 miles northwest of Boston, Massachusetts (see Vicinity map). The region surrounding the park has grown and developed from a semirural area to a high-tech suburban one and is experiencing all the pressures of such growth. The dirt road followed by the British soldiers has evolved into a modern highway, one of many in a complicated network within Boston and its suburbs.

High density, rapid growth, and a booming economy have pushed residential, commercial, and industrial development closer and closer to the park. This development has brought with it increased traffic, noise, and density that interfere with the intended purpose of the park and impair visitors' experience of park resources. Visitors are often unsure when they are entering or leaving the park. Traffic patterns, land use, and inadequate signing all contribute to safety hazards, visitor confusion, and disorientation.

The park is within the towns of Concord, Lincoln, and Lexington, each of which has distinct needs, concerns, and character. Collectively, however, the park and towns include some of the region's most significant historic and open space resources. Decisions made by the park affect these and other neighboring towns; similarly, land use decisions made by the towns affect Minute Man National Historical Park.

Residential development patterns in the area are mainly low density suburban with a preponderance of single-family homes that create 20th-century intrusions (traffic, noise, and visual impacts). Office, commercial, and light industrial development also occur near the park, and impacts of these land uses are much greater and more difficult to mitigate.

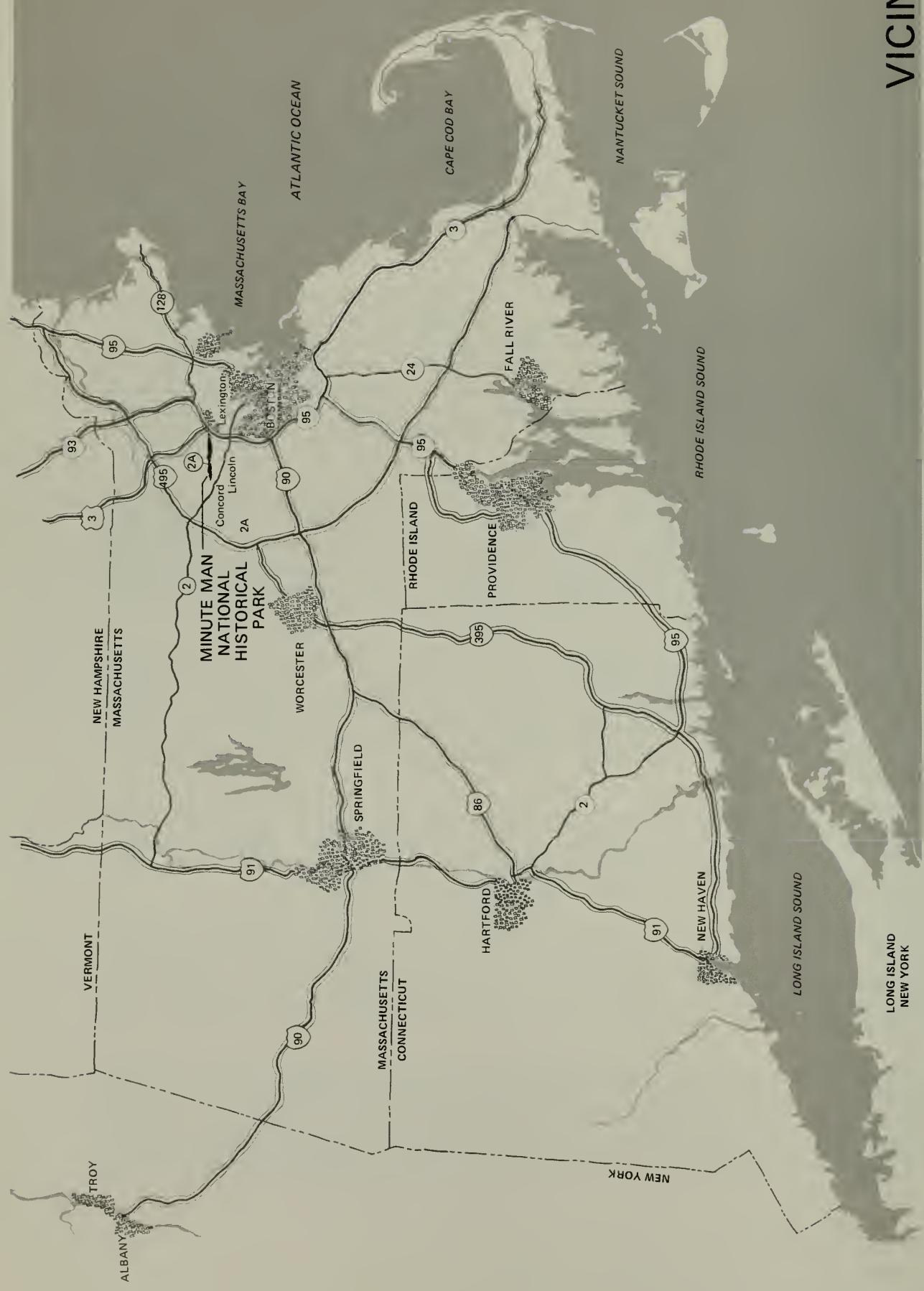
Hanscom Air Force Base, directly north of the park, generates much traffic along Route 2A, and base housing is visible to visitors at several locations in the park. Recent construction has created additional visual impact on the park and may lead to increased slope erosion.

Adjacent to the Air Force Base is Laurence G. Hanscom Field, a public airport owned and operated by the Massachusetts Port Authority (Massport). While the airport is not directly visible from the park, both airplane noise and air and ground traffic generated by the airport have negative impacts on the park.

Parcels of publicly owned land adjacent to the park boundary include a regional vocational/technical school, a sanitary landfill and transfer station, and several parcels of conservation land. In addition, private development includes several office parks, a hotel/restaurant complex, and expanding residential construction. High voltage power lines cross

MINUTE MAN NATIONAL HISTORICAL PARK

↑
NORTH
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the park at the Bluff west of Fiske Hill on a strip of land owned by Boston Edison.

ACCESS AND TRAFFIC PATTERNS

State Routes 2 and 2A provide major east-west traffic corridors between the circumferential routes around the west side of the Boston metropolitan area. Traffic has increased dramatically on these radial corridors because of new development and employment growth along the beltway in the northwest quadrant of the area. Increasing commuter use of these routes has produced congestion and safety problems on these routes and on town roads near the park as well as in the town centers.

Until 1983, Route 2A continued westward into Concord Center on Lexington Road. Today, however, it follows an alignment southwest on Bypass Road to Route 2. Lexington Road, west of Bypass Road, is now under the jurisdiction of the Town of Concord.

Interstate 95/State Highway 128 (I-95/Route 128) brings traffic from the north and south to Route 2A which directly serves the east end of the park. Route 2A carries east-west traffic through a major portion of the Battle Road unit of the park and follows nearly 4 miles of the Battle Road. The North Bridge unit of the park can be reached by continuing west from Route 2A on Lexington Road into Concord Center and then north on Monument Street or Lowell Road to Liberty Street.

Route 2 parallels 2A to the south and is a major east-west highway from Boston to the west. Westbound traffic on Route 2 can access the Battle Road unit to the north from several town roads or continue westward on Cambridge Turnpike (town road) to Concord Center.

New office space at the east end of the Battle Road unit and anticipated office and residential development north of Virginia Road has and will generate additional traffic on Route 2A. Some safety improvements are scheduled for Route 2, but they will not result in significant capacity increases of the roadway.

ROUTE 2A TRAFFIC CONDITIONS

Route 2A (The Battle Road) is a state-owned and state-maintained highway classified as a minor suburban arterial in the state highway system. The roadway is 24 to 26 feet wide with two travel lanes without shoulders. The steady stream of traffic, numerous intersections, and limited lines-of-sight along 2A make travel hazardous, especially for park visitors. There are no bikeways or significant pedestrian trails along the road corridor to accommodate safe, nonmotorized circulation.

Traffic controls on roads approaching Route 2A consist mainly of stop signs and yield signs. In addition, flashing beacons are provided at the Route 2A and Hanscom Drive intersection. Through the efforts of the town of Lexington, the intersection of Route 2A and New Massachusetts

Avenue will be signalized and channelized for left-turn movement from 2A in the future. At Hanscom Drive a left-turn lane is provided on eastbound Route 2A.

Traffic on Route 2A through the park is particularly congested during the morning and evening peak hours on weekdays and remains heavy during most of the day. Traffic delays result from the inability of Route 2A to accommodate the high volume of traffic and the conflicts between turning and through-movements at the major road intersections. Park visitors now experience frustration when attempting to pull over and stop at points of interest along The Battle Road because of heavy traffic and inadequate roadside space. Such efforts are difficult and dangerous. Appendix B contains traffic data on Route 2A. Specific concerns along Route 2A include the following:

Sections of the route are handling more traffic than designed for.

Everywhere in the park traffic noise is a constant intrusion to visitors.

Overhead utility lines along and crossing all the public roads are a visual intrusion on the historic scene.

Traffic on all public roads, particularly Route 2A, is a visual intrusion everywhere in the park.

Modern day public roads mask the historic road.

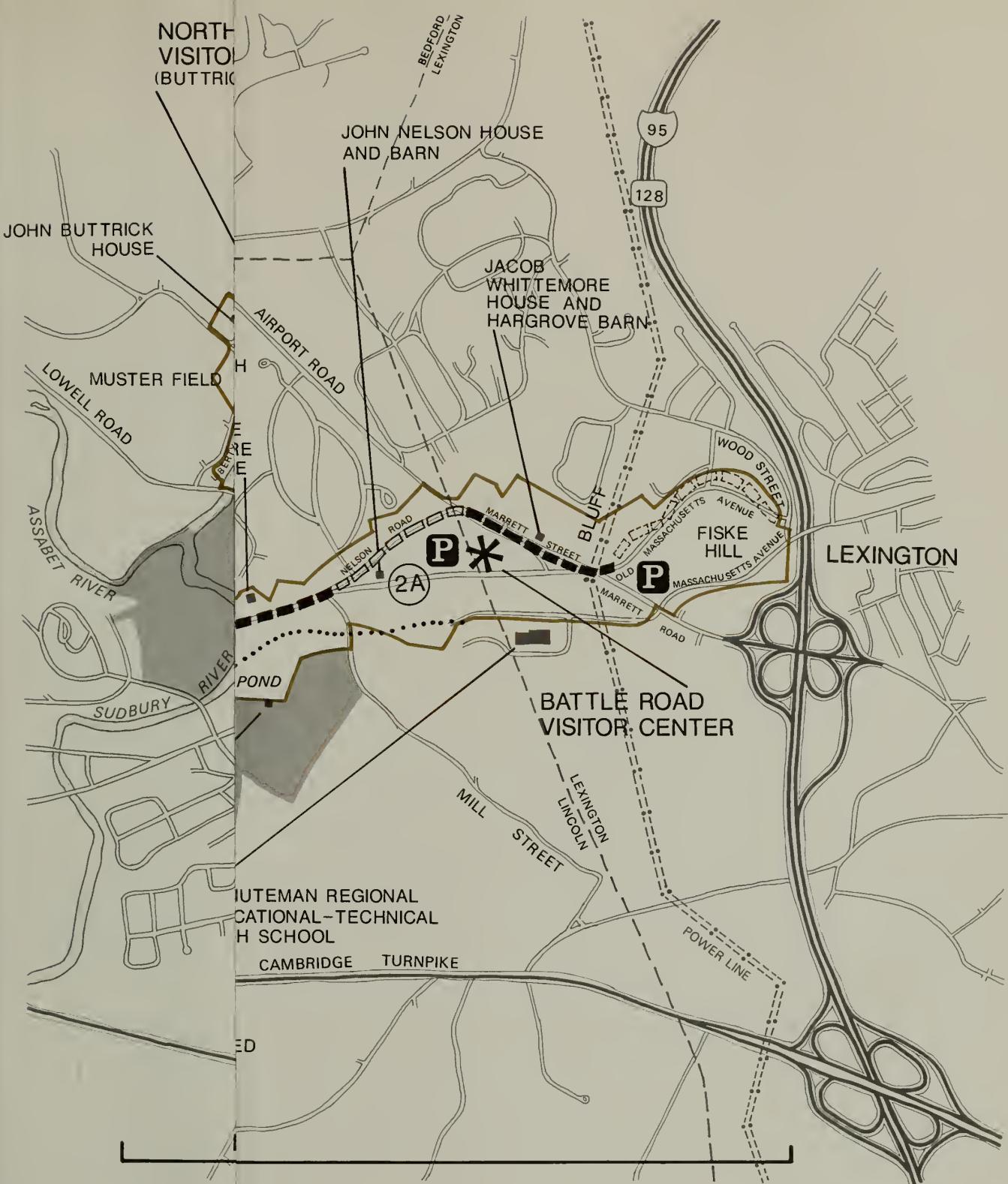
Present visitor facilities are too near the heavily traveled Route 2A.

The U.S. Air Force's Hanscom Field facilities present visual intrusions at several locations.

PARKING

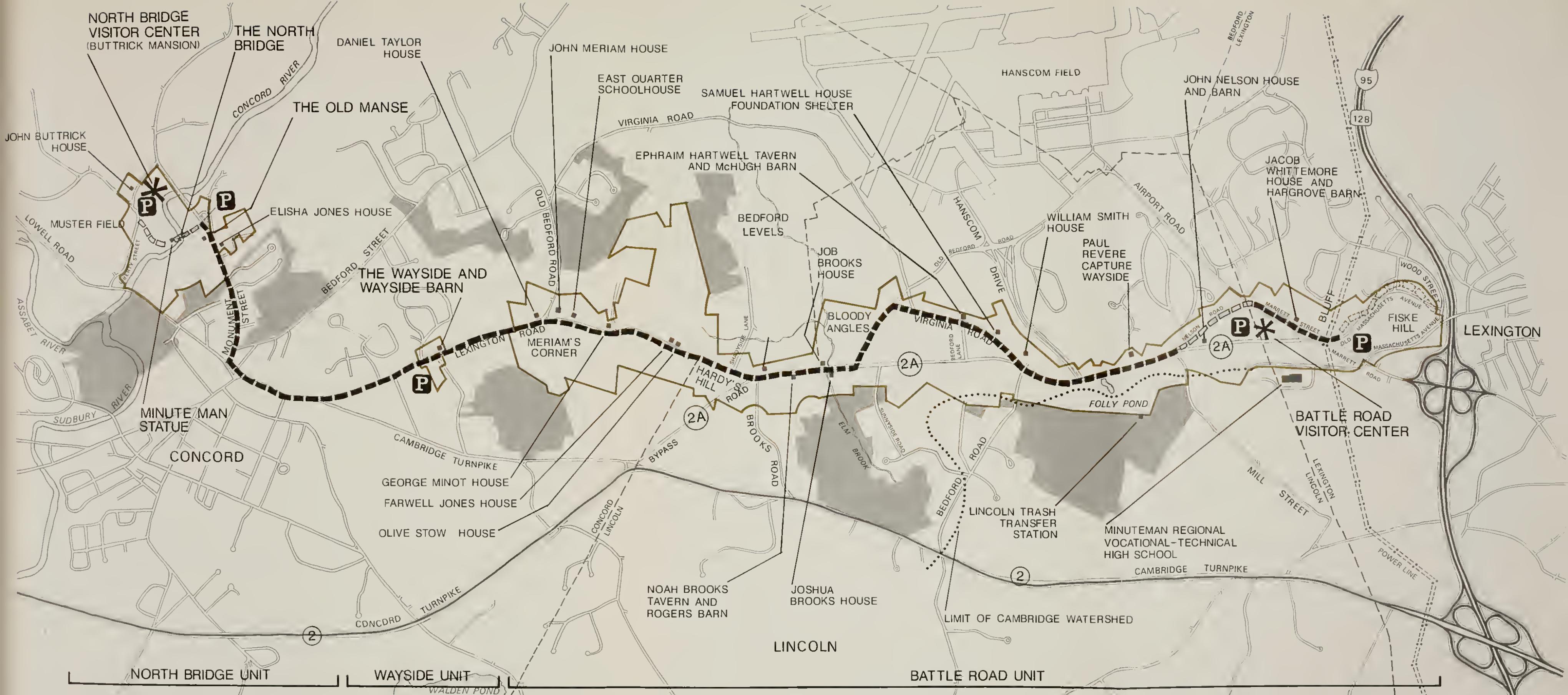
There are five designated parking areas in the park--Fiske Hill (22 car spaces), Battle Road Visitor Center (32 car/12 bus spaces) The Wayside (28 car spaces), The North Bridge (58 car/4 bus spaces), and North Bridge Visitor Center (44 car/4 bus spaces). In addition, there is a turnout at the Paul Revere Capture Wayside and a small parking area near the Ebenezer Fiske House foundation. Parking space is also available at some of the historic structures. Parking is not available at Meriam's Corner nor at the Bloody Angles.

Inadequate parking is most critical, however, at the heavily visited North Bridge unit. Spaces are provided at the town-owned lot on Monument Street and at the North Bridge Visitor Center lot. Overflow parking is accommodated on NPS land south of The Old Manse. This lot accommodates a maximum of 65 cars, and is used 50-60 days per year, especially on weekends in peak visitor season. Visitors who park at the Monument Street lot must cross the road to reach The North Bridge--an inconvenient and unsafe situation.



EXISTING CONDITIONS
MINUTE MAN
NATIONAL HISTORICAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

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DSC | MAR 88



P PARKING

— — — — BATTLE ROAD TRACES

— PARK

— — — RESTORED HISTORIC BATTLE ROAD

— — — PAVED HISTORIC BATTLE ROAD

■ TOWN CONSERVATION LANDS

EXISTING CONDITIONS
MINUTE MAN
NATIONAL HISTORICAL PARK
 UNITED STATES DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE

0 900 1800 FEET
 ↑ NORTH

SIGNIFICANCE OF THE PARK

BATTLE ROAD AND NORTH BRIDGE UNITS

The Battle Road and North Bridge units of Minute Man National Historical Park encompass portions of the road along which the American War for Independence began on April 19, 1775. The fighting of that day signaled the end of a long political struggle between the British government and the American colonies and the beginning of eight years of military conflict. The Americans began that day as free, loyal subjects of the crown defending traditional British rights that included resistance against unlawful acts of parliament and the self-determination of their affairs through a responsive, representative government. By the end of that day, they had demonstrated that they were willing to die, if necessary, to ensure preservation of their rights.

Earlier, in response to the Boston Tea Party on December 16, 1773, King George III and his ministers had pushed through parliament a series of measures collectively known in the colonies as the "Intolerable" or "Coercive" acts which, among other things, closed the port of Boston, placed Massachusetts under the military rule of Maj. Gen. Sir Thomas Gage, and generally infringed on what the colonies believed to be their rights and interests.

Acutely aware of Gage's force in Boston, the provincial congress of Massachusetts urged the officers in each town to enlist a quarter of their militia in minute man organizations and to begin stockpiling ammunition and other military stores. A major depot for these stores was established at Concord, some 18 miles northwest of Boston.

On the evening of April 18, 1775, Gage, who had learned of the military stores at Concord, sent a detachment of 700 light infantry and grenadiers under the command of Lt. Col. Francis Smith to destroy the stores. Detecting the plan, the Americans sent alarm riders including Paul Revere and William Dawes to spread the alarm throughout the countryside. At sunrise on April 19 the British detachment found part of the Lexington militia assembled on the town common. A shot was fired, its origin unknown, and without any clear orders, the British regulars fired a volley and charged with bayonets. The militia quickly dispersed, leaving eight dead and ten wounded.

The British column marched on toward Concord after only a slight delay. The Concord minute men and militia, greatly outnumbered, withdrew as the British arrived. As the British deployed to occupy the town and search for military stores, the Americans crossed The North Bridge and retired to a hill nearby. Shortly after the Americans passed, 200 of the British force crossed the bridge to search for military stores at Barrett's farm, 1½ miles away, and left about 90 soldiers to secure the bridge.

Finding some stores in the town center, the British proceeded to burn them. The smoke from that fire was visible to the Americans and caused

them to believe that the British had set fire to the town. By this time, other companies had joined Concord's and they had moved to the Muster Field, overlooking the bridge. Soon their ranks had grown to about 400 men. Colonel James Barrett led the militia and minute men down the hill toward the bridge to protect their town. The British guarding the bridge withdrew across it and attempted to remove the planking. As the American column advanced, the British fired a few shots into the river and, when the Americans continued to advance, fired a volley that left two dead and several more wounded. For the first time the Americans were ordered to return the fire, killing two British soldiers and wounding many others, and causing the British to break ranks and flee to the town center.

The Americans paused when they saw that the town was safe, and the British who had searched Barrett's farm rejoined their compatriots in the town center without difficulty. The British commander regrouped his men and they began the return march to Boston. Meanwhile the Americans were joined by more militia and minute man companies and began to move parallel to the British. At Meriam's Corner, east of Concord center, the British rear guard and the Americans exchanged shots which began a running fight that continued all the way back to Lexington.

The British troops were demoralized and nearly out of ammunition by the time they reached Lexington. They were saved from being forced to surrender by the arrival of 1,000 reinforcements with two cannon. The reinforcements held the Americans at bay and provided the British with an opportunity to rest briefly and regroup. Once the British resumed their march, the Americans, further reinforced by additional militia and minute man companies, closed in and continued to harass the British until they reached Bunker Hill and the protection of the guns of the British fleet in the harbor.

When the fighting had stopped, the British force of about 1,700 men had suffered 273 casualties either killed, wounded, or missing. The American casualties were 95 killed and wounded, out of an estimated 3,700 men who engaged the British column. By nightfall, the Americans had laid siege to Boston by closing all its land approaches.

The American determination to fight and die if necessary for their rights, homes, and community showed a firm resolve to resist any British attempt to impose their will by armed force. The fighting also convinced the Americans that an armed citizenry could defeat a professional British army.

The events of April 19, 1775, also had immediate significance for the larger colonial cause. The bloodshed was an irrefutable argument for the creation of a provincial army responsive to the Continental Congress. It solidified the Massachusetts colony's support of armed resistance, and shortly thereafter, the citizens of other colonies were forced to choose between the American cause or the crown's protection. The running fight devastated any hopes many colonists had for a reconciliation with Great Britain, shattered the illusion that American militiamen would never stand

up to British regulars, and ended the British pretense of governing Massachusetts. Some eight years later, the American colonies would become an independent, sovereign nation.

WAYSIDE UNIT

The Wayside, a national historic landmark in its own right, emphasizes a secondary park theme: the Concord literary tradition. The home of Samuel Whitney, Concord muster master on April 19, 1775, The Wayside was also the first Concord residence of Bronson Alcott and his family, including his daughter Louisa May Alcott, in the mid-19th century. When they moved next door, they sold the house to Nathaniel Hawthorne, who lived in it with his wife and three children.

Daniel Lothrop, a respected publisher of children's literature, purchased the house from Hawthorne's daughter and son-in-law. Lothrop acquired the well-known home, substantially expanded since Whitney's days, as a summer home for himself and his bride, Harriett M. Lothrop, a renowned children's author. Writing under the pen name Margaret Sidney, she had already begun to write the "Five Little Peppers" series, and she continued writing it, as well as numerous other books, short stories, poems, and articles. Her patriotic fervor moved her to found the Children of the American Revolution, paralleling the structure of the Daughters of the American Revolution, in 1895.

The Lothrop family remained in The Wayside for more than 80 years. In 1965 daughter Margaret Lothrop, herself a published author, sold the house to the federal government. Now restored to its appearance at the time of Harriett Lothrop's death in 1923, The Wayside is interpreted as the home of all of its former literary occupants. (Refer to pages 1 and 5 of the "MHC Reconnaissance Survey Report, Concord" (Massachusetts Historical Commission 1980a) for a broader statement of the mid-19th-century intellectual context for Concord.)

CULTURAL RESOURCES

Although the park contains many cultural resources from the time of the battle, most of them have been significantly altered. Perhaps the most significant, The Battle Road, has been incorporated into the present Route 2A/Lexington Road alignment, although a few isolated segments of the road remain unpaved. The Nelson Road section has recently been restored by the National Park Service to its approximate historical appearance. Most other historic roads within the park have been paved for modern use.

Along The Battle Road are a number of sites of particular interest. East of Concord Center, at the intersection where Old Bedford Road joins The Battle Road (Meriam's Corner), the John Meriam House and Barn gave cover to the patriots allowing them to get close to the British column as it crossed the narrow bridge there. The shots exchanged between the colonists and the British rear guard opened the running battle on the road to Boston. Farther east, at Hardy's Hill, the militia from Sudbury and towns to the south joined the fighting and subjected the British to fire from both flanks. The road made two sharp turns east of Hardy's Hill, which provided ambush points for the Woburn militia and others. In the murderous crossfire, eight British soldiers and several minutemen including the captain of the Bedford Company were killed--the area has come to be called the Bloody Angles.

Just east of the Battle Road Visitor Center is a small rocky hill, the Bluff, along The Battle Road, which presented a significant obstacle to the British while it was held by the colonials. The column appeared trapped until Major Pitcairn sent a detachment to occupy the high ground while the column moved past and reformed.

Fiske Hill and the area around the house of Ebenezer Fiske was the scene of intense, close-quarter fighting, as British flankers tried to flush out the concealed ambushers. Although the historical park boundary ends here, the fighting continued on through Lexington, Menotomy (present-day Arlington), and Cambridge until the British reached Bunker Hill.

The National Park Service manages 12 historic buildings that were standing at the time of the battle. Two of these have been restored: (1) the Ephraim Hartwell Tavern--originally opened in 1754--provided travelers with bed and board and was also a popular gathering place for local people; and (2) the William Smith House, which was the home of the captain of the Lincoln minutemen. Of the remaining 10 battle era buildings, The Wayside and Wayside Barn have been restored to their appearance in 1924 when Harriett Lothrop died, and the others appear as they did at the time they were acquired by the federal government.

Nine historic buildings built between 1776 and 1900 are also managed by the park. Several of these structures, however, only postdate the battle by a brief period and could be maintained to supplement the colonial

character of the area. In addition, the Buttrick Mansion and outbuildings, built in 1911, currently serve as the park's administrative headquarters and North Bridge Visitor Center.

Table 1 provides a list of all historic buildings in the park along with information on their dates of construction, architectural integrity, and present uses.

All of the park's 19th-century buildings have been identified. Most modern (post-1920) structures purchased by the federal government have been removed except those maintained by the former owners under use and occupancy agreements.

Two major historic sites within the park boundary are not owned by the federal government. First, the immediate area of The North Bridge, including the bridge itself, the Minute Man Statue, and the lane approaching the bridge along with adjacent parking facilities, are owned by the Town of Concord and are maintained by the National Park Service through a cooperative agreement. Second, The Old Manse, which was standing at the time of the battle, is owned, administered, and maintained by The Trustees of Reservations, a private, nonprofit organization.

Another site of note within the Battle Road unit is a wayside pullout that commemorates the site of Paul Revere's capture. Paul Revere, Dr. Samuel Prescott, and William Dawes were confronted by a British patrol as they rode through the early morning darkness on April 19 to warn Concord of the approaching British column. Revere was captured and Dawes was forced back to Lexington, but Prescott escaped to carry word of the British march to Concord.

Archeological remains have been identified at 19 sites known to have been occupied at the time of the battle. In addition, there are approximately 25 miles of stone walls, which often mark historic boundaries. The park contains a number of other known prehistoric and historic archeological sites, and it is anticipated that additional historic and prehistoric sites will be identified once the extensive archeological survey currently underway is completed. While the primary focus of the survey is to identify historic resources, principally revolutionary-era building sites and farmsteads, it also contains a component that will identify prehistoric resources within park boundaries in agreement with the Massachusetts Historical Commission's management needs for eastern Massachusetts. Tables 2 and 6 in "The Draft Plan/Environmental Assessment" section and appendix C list all known archeological resources in the park.

Historically, the landscape consisted of homelots, fields, meadows, and pastures interspersed with orchards, woodlands, and an occasional marshy area. While these same elements can be found in the park today, they do not represent the historic configuration. For example, what were once mostly open agricultural lands are now primarily wooded areas since the decline of agricultural use following World War II. To date, only minimal landscape re-creation has been undertaken at the park. Currently, certain fields are kept open by area farmers as pasture or croplands through leases issued by the park.

Table 1: Historic Buildings

<u>Buildings Standing in 1775</u>	<u>Date of Construction</u>	<u>Architectural Integrity</u>	<u>Present Use</u>	<u>Ownership</u>
Jacob Whittemore House	Prior to 1745	Extensive alterations to rear	Residence	NPS
William Smith House	1693; restored by NPS, 1985	Restored	Interpretive site	NPS
Ephraim Hartwell Tavern	1732; restored by NPS, 1983	Restored	Interpretive site	NPS
Job Brooks House	ca. 1760	Extensively altered	Storage	NPS
Samuel Brooks House	1733	Extensively altered	Residence	NPS
Olive Stow House	1760	Moderately altered	Residence	NPS*
Farwell Jones House	Prior to 1775	Extensively altered	Residence	NPS*
John Merriam House	ca. 1680	Extensively altered in rear	Residence	NPS*
Wayside Barn	18th century	Extensively altered	Visitor information	NPS
The Wayside	1716-17	Extensively altered	Interpretive site	NPS
Elisha Jones House	Early 18th century	Extensively remodeled and rebuilt	Residence	NPS
The Old Manse	1770	Moderately altered	Interpretive site	Private (Trustees of Reservations)
John Buttrick House	1715	Extensively altered	Residence/offices	NPS
<u>Buildings Built after 1775</u>	<u>Date of Construction</u>	<u>Architectural Integrity</u>	<u>Present Use</u>	<u>Ownership</u>
Hargrove Barn	19th century	Completely rebuilt in 1939 - moved in 1978	Storage	NPS
Battle Road Visitor Center	1975	Excellent	Visitor information	NPS
John Nelson House	1810	Excellent	Residence	NPS*
John Nelson Barn	1810	Substantially enlarged	Storage	NPS*
Samuel Hartwell House	1986	Excellent	Interpretive site	NPS
Foundation Shelter				
McHugh Barn	1820 foundation	Completely rebuilt in 1939	Visitor information/storage	NPS
Joshua Brooks House	1781	Moderately altered	Residence	NPS
Noah Brooks Tavern	1810	Moderately altered	Residence/storage	NPS
Rogers Barn	1936	Excellent	Maintenance facility	NPS
George Minot House	1865	Extensively altered	Residence	NPS*
East Quarter Schoolhouse	1854	Extensively altered	Residence	NPS (special use permit)
Burke House	ca. 1920	Minimally altered	Residence	NPS*
Daniel Taylor House	ca. 1810	Moderately altered	Residence	NPS
Buttrick Mansion (North Bridge Visitor Center)	1911	Moderately altered on interior	Visitor information/offices	NPS
Buttrick Caretaker's House	1911	Excellent	Residence	NPS
Buttrick Carriage House	1911	Squash court extensively altered	Storage	NPS

*Reservation of use and occupancy

In 1983, the Park Service commissioned Dr. Joyce L. Malcolm to research the battle era appearance of the landscape now included within the park's boundaries. In 1985 the Minute Man National Historical Park archeological project was initiated with the following goals: to describe and explain the physical appearance of 18th-century farmsteads, particularly the homelot, through interdisciplinary research and to locate portions of the historic Battle Road. The results of these efforts provide important data and will be useful to park management when historic landscape re-creation and interpretation are undertaken.

The park's museum collection includes historical, archival, and architectural materials and a sizable archeological collection. Most of the historical collection is on exhibit at The Wayside; selected items are included in exhibits at the two visitor centers. Small portions of the archeological collection are also exhibited, but most of it is stored for reference and research, as are the archival and architectural collections. A collections management plan will be prepared to provide guidance in the care and preservation of the collections. Detailed information regarding the park's museum collection is included in appendix C.

The entire park is included on the National Register of Historic Places. National Register forms have not been completed to document the significance of the park's resources. Completion of these forms remains a high priority for the National Park Service and will be initiated once all the necessary historical and archeological information is available. Three areas, either partially or wholly within the park boundary--the Concord Historic District, The Old Manse, and The Wayside--are listed individually on the National Register.

NATURAL RESOURCES

TOPOGRAPHY

The park is characterized by flat plains and low-rolling hills composed of unconsolidated glacial deposits that overlie a complex geology of metamorphic and igneous bedrock, and it lies within the Seaboard Lowland Section of the New England physiographic province. The rounded hills, such as Revolutionary Ridge in Concord, are composed of glacial till, although the hills in the eastern end of the park have a bedrock core. Elevations vary from 120 feet above sea level along the Concord River in the Town of Concord to 307 feet at the summit of Fiske Hill in the Town of Lexington.

WATER

The park lies along watershed boundaries of the Concord River flowing north, the Shawsheen River flowing northeast, and the Charles River flowing east. The Concord River flows through the North Bridge unit of the park. The Concord is a slow-moving river with a wide floodplain and extensive contiguous wetlands that provide food and cover for a variety of wildlife associated with riparian vegetation. Flooding occurs along the river, but it is not a serious threat to park resources other than minor erosion along the banks. Mill Brook rises in areas south of The Battle Road and flows into the Concord River above The North Bridge. Elm Brook flows through the Battle Road unit, agricultural and residential lands of Hanscom Field, then on into the Shawsheen River. The waters of the Shawsheen and Charles rivers are taken for domestic uses downstream. Lands south of the park lie within the watershed for the City of Cambridge reservoirs; therefore, contaminated runoff from Routes 2 and 2A and Route 128 is of environmental concern. Any park development that could have an impact on the Cambridge watershed must be carefully evaluated.

Several wetland areas, including Folly Pond, have been identified on the National Wetland Inventory by the U.S. Fish and Wildlife Service (see Wetlands map).

VEGETATION

Vegetation studies indicate that forests reoccupied the land soon after the glaciers withdrew between 10,000 and 12,000 years ago. Dominant species included oak-chestnut-hickory associations, as well as pine, maple, elm, walnut, white birch, hemlock, and locust. At the time of European contact, the area was covered by mature deciduous hardwood forests with some open river meadows and lowland areas maintained by the Algonquin Indians. There is evidence that about 1635 a major storm occurred that destroyed a substantial acreage of mature forest. These open areas attracted the early settlers looking for suitable agricultural land. The

forested lands were cleared, and by the early 1800s only 10 percent of the forest remained.

The accompanying map compares the vegetative cover in 1775 to that of the present. There has been a gradual closing in of old field areas, and today, most of the park is second-growth forest with oak, maple, birch, beech, ash, eastern white pine, and brush, a successional stage. Open fields, formerly used for agriculture, are slowly returning to forest.

Grasses, including the native bluegrasses and the introduced timothy, redtop, and orchard grass, are also a significant cover type. Weeds and poison ivy cover those areas recently cultivated or otherwise disturbed.

WILDLIFE

The wildlife populations of the park area reflect the changes in vegetation patterns. The extensive forested areas provided habitat for few wildlife species because the closed canopy of the mature forest restrict growth of understory food plants. However, the agricultural expansion of the 1700s and 1800s opened the forest and created more diverse land use patterns suitable for deer, moose, foxes, raccoons, skunks, minks, squirrels, woodchucks, rabbits, muskrats, and other rodents. Birds included woodcocks, ruffed grouse, hawks, songbirds, herons, gulls, and a variety of waterfowl.

As farming expanded to its greatest extent in the early 19th century, the open land with lack of cover reduced wildlife habitat, and as a result, reduced wildlife species diversity and numbers. During the early 1900s, when many fields were abandoned and allowed to grow into brush and woodlands, wildlife populations increased.

Small animals in the park include raccoons, skunks, squirrels, woodchucks, muskrats, and other common species. On occasion, white-tailed deer may be seen. Numerous species of small birds are seen in the grass, brush, and woodland vegetation in the park. Several species of ducks use the marsh wetland areas along the Concord River, especially during spring and fall migration periods. Canada geese may also be seen along the river during these times. A variety of freshwater fish, including catfish and perch, are in the Concord River. Likewise, a variety of amphibians, reptiles, and insects can be found in the park. There are no significant wildlife problems in the park.

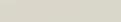
Except for occasional transient individual animals, there are no known federally listed threatened or endangered wildlife species within the area and no known listed plant species.



FLOODPLAINS
MINUTE MAN
NATIONAL HISTORICAL PARK
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NATIONAL PARK SERVICE

406 20034
DSC APRIL 88



 PARK
 RIVERS, STREAMS,
PONDS, RESERVOIRS
 100 YEAR FLOODPLAIN
 500 YEAR FLOODPLAIN

FLOODPLAINS MINUTE MAN

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WETLANDS
(FROM U.S. F.W.S.)

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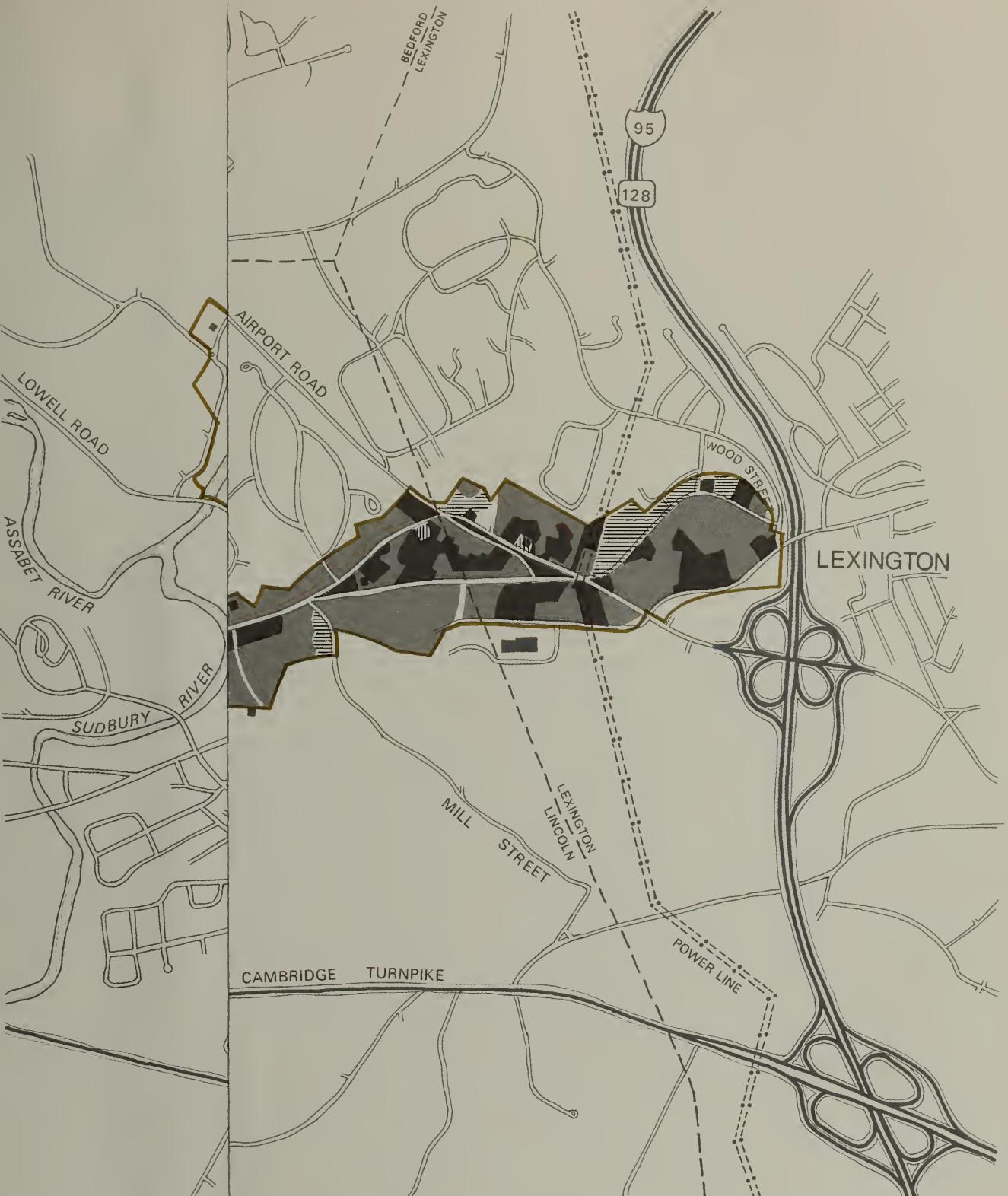


— PARK

P PALUSTRINE
 OW OPEN WATER
 FO FORESTED
 E SEASONAL SATURATED
 Z INTERMITTENTLY EXPOSED/PERMANENT
 SS SCRUB/SHRUB

EM EMERGENT
 Y SATURATED/SEMIPERMANENT/SEASONAL
 B SATURATED
 L LACUSTRINE
 R RIVERINE
 2 LOWER PERENNIAL

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VEGETATIVE COVER
COMPARISON OF HISTORIC & PRESENT
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NATIONAL PARK SERVICE

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NORTH



VEGETATIVE COVER
COMPARISON OF HISTORIC & PRESENT

MINUTE MAN
NATIONAL HISTORICAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

↑
NORTH
0 900 1800 FEET

VISITOR USE AND DEVELOPMENT

Visitation to Minute Man National Historical Park has been reported at approximately 1 million visits per year over the last 10 years. Peak visitation occurs in July and August and again in October because of the fall color. April, May, June, and September are also busy months, but visitation drops significantly from November through February.

According to the park's current "Statement for Interpretation," 42 percent of the park's visitors are from the general New England region, 32 percent are from other areas of the country, and 21 percent are from the local area. There is also a significant number (5 percent) of visitors from foreign countries. Most visitors (60 percent) spend two hours or less in the park, 20 percent spend two to four hours, and 15 percent spend most of the day (four to six hours).

The North Bridge unit is by far the most heavily visited site. In 1987 when the total park visitation was approximately 950,000 visits, visitation to the North Bridge area was estimated at 620,000 visits. During the same period, visitation at the Battle Road Visitor Center and Fiske Hill parking areas was recorded at 150,000 and 169,000 visits, respectively. Visits to The Wayside totaled about 5,800. No data are available to determine how many visitors go to more than one site in the park. Appendix D provides visitor use data on annual and monthly park visitation.

The park has two visitor centers--one at the North Bridge unit and one at Route 2A near the east end of the Battle Road unit. The North Bridge Visitor Center is in the Buttrick Mansion. The ground floor houses visitor services, orientation, and exhibits; the remainder of the building is used for park headquarters. The Battle Road Visitor Center, one of the few new facilities added to the park by the National Park Service, offers exhibits and audiovisual presentations. A third orientation facility is located in the Wayside Barn, which houses an audiovisual presentation and serves as a staging area for tours of the house. Only the North Bridge Visitor Center is open year-round.

In addition to the staffed visitor centers, visitors receive interpretation via informal talks at The North Bridge, tours of The Wayside, and walks along The Battle Road between the Ephraim Hartwell Tavern and the William Smith House. As in most parks, school groups are common during the spring and fall, and the park staff offer historical and environmental programs for them. The National Park Service is currently preparing a number of new outdoor wayside exhibits to provide park orientation and site-specific interpretation of The Battle Road and The North Bridge areas. Indoor exhibits at the two visitor centers are also being redesigned. Publications relevant to park themes are sold by the Eastern National Park and Monument Association at both visitor centers and the Wayside Barn contact station.

The present visitor carrying capacity at the park was determined by calculating the estimated peak number of visitors who would be in the

park at one time if all existing parking areas and pull-off areas were occupied (see appendix D). An estimated 1,700 visitors could be accommodated in the present automobile and bus parking spaces. This volume of visitors would, however, be taxing on certain park resources and present level interpretive staffing.

THE DRAFT PLAN / ENVIRONMENTAL ASSESSMENT

INTRODUCTION

When Congress authorized Minute Man National Historical Park by Public Law 86-321 on September 21, 1959, it specifically directed the National Park Service to "consolidate, preserve, selectively restore and interpret portions of the Lexington-Concord Battle Road, as well as associated structures, properties and sites, so that the visitor may better appreciate and understand the beginning of the American Revolution as a significant chapter in the American Historical Heritage."

Based on this congressional intent, NPS "Management Policies," review by local and state officials, and substantial public support, this GMP proposes a park that emphasizes the area's 1775 character. The park would, wherever possible, replicate the landscape to 1775 and provide the visitor with an opportunity to walk along The Battle Road and through the surrounding fields. They would be better able to appreciate the events that led to the American Revolution and, specifically, the context in which the battle of April 19, 1775, occurred. Although an exact re-creation of the 1775 scene is no longer feasible, it will be possible to represent and interpret the characteristics of this period through the actions described in the GMP. The GMP calls for the separation of visitors from modern development, particularly traffic, which currently disrupts their enjoyment and understanding of the park. It also preserves historic buildings, removes modern visual intrusions, expands the signs and exhibits for visitor information and orientation, restores the historical appearance of The Battle Road, and enhances the holistic image of the park and the region as a nationally significant resource. The time to preserve what remains of the April 19, 1775, scene is now; failure to take decisive action now will result in the further destruction of this precious piece of history.

Key to the understanding of this plan is that Minute Man National Historical Park is comprised of three parts or units: The Battle Road, The Wayside, and The North Bridge. The Battle Road and North Bridge units present the events related to the beginning of the American Revolution, while the Wayside unit focuses on the unique literary history of Concord. This GMP deals primarily with the actions in the Battle Road and North Bridge units required to meet the intent of PL 86-321. Within these two units the plan presents actions in phases. The actions are further grouped by geographic sections within these phases to facilitate the review of the GMP. The plan is supplemented by an environmental assessment of impacts of the proposal and alternatives, and appendixes, maps, and tables that summarize specific actions and relevant data.

In summary, the proposal includes the following:

restoring The Battle Road to its approximate historic, unpaved surface

preserving the historic buildings

restoring the general landscape character

THE BATTLE ROAD UNIT

PROPOSAL

Overall Concept

This proposal for the Battle Road unit, which has received substantial public support, presents a program for preserving existing historic features, restoring selected landscape features, relocating Route 2A, and restoring The Battle Road. The proposal was presented to the public previously as the reconstructed road alternative. The visitor experience envisioned in this draft plan will emphasize walking on The Battle Road within the park and receiving interpretation in a variety of forms along the way. Interpretation will help visitors visualize the events of April 19, 1775, and understand the significance of those events in the context of our country's early history. Parking and orientation areas at intervals adjacent to The Battle Road will provide access to specific portions of the park for visitors who cannot or do not wish to walk the entire route.

The restoration of the 1775 environment will provide a flavor of the physical conditions on April 19, 1775, without requiring the detailed replication of the entire landscape. The exact re-creation of the total historic scene, complete with dwellings, farmsteads, orchards, gardens, fences, and walls, is not feasible because of insufficient historic data, NPS management and policy constraints, capital and maintenance costs, and adjacent development.

The National Park Service will continue to work with state, regional, and local efforts to decrease the flow of traffic on Route 2A through improvements to other road corridors. The National Park Service wants to have a strong input into the design of the relocated road so that, in addition to serving local transportation needs, it would serve the needs of park visitors. The purpose of this involvement would be to create a roadway with a distinguished character expressing the specialness of the area--the "heritage highway" concept. The character of the road should be a curvilinear, two-lane roadway, necessitating lower design speeds, with turnoffs for accessing park features. The National Park Service will support design features of the roadway at a level consistent with that idea, rather than increased speed and volume.

Recognizing that Route 2A may not be relocated for sometime, the draft plan for the Battle Road unit proposes actions in three phases.

Phase 1 contains actions that could be implemented anytime following final plan approval.

Phase 2 actions will require more time and funding to implement, require significant action by the towns and state or other federal agencies, are contingent on research or other actions to be completed in phase 1, or must be delayed until required lands come under complete NPS control.

Phase 3 actions cannot be implemented unless and until 2A is relocated.

It is important to note that the three phases represent only a relative order of proposed actions and not a strict chronological order in which actions will occur. For example, phase 2 actions need not be delayed until all phase 1 actions are completed. It is likely that developments in some areas of the park will be in phase 1 at the same time that other areas are in phase 2 or, possibly, in phase 3.

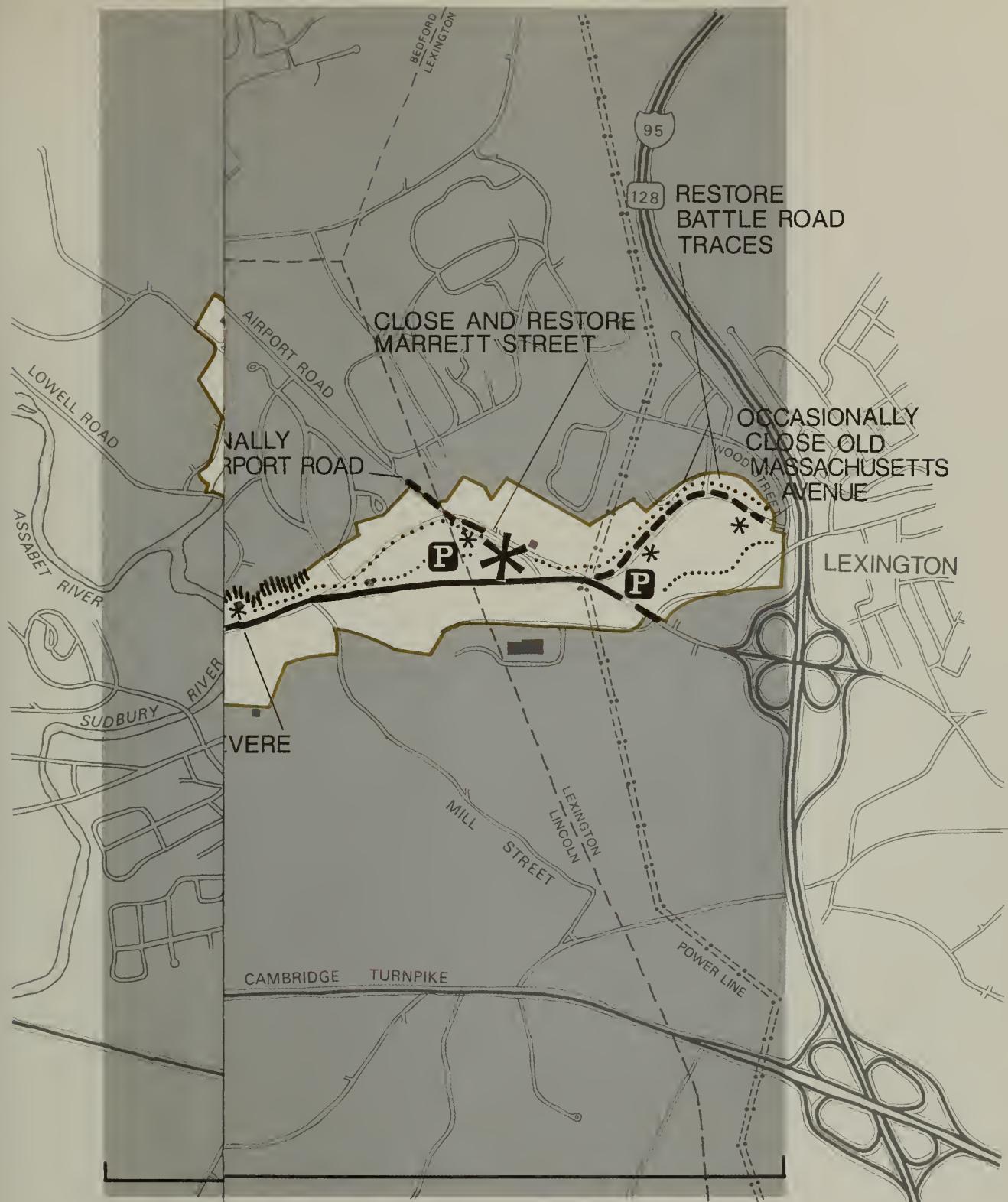
In this document, the Battle Road unit has been divided into five sections, or segments, as shown on the maps. Actions for the entire unit and those specific to the five sections are described for phases 1, 2, and 3.

Phase 1

Unitwide. In phase 1, the process of replicating the historical balance of open fields, orchards, and natural woodlands will begin. Based on the comparison of historic maps, current land use maps, and aerial photographs, it appears that much of the landscape has changed from open fields to brush and woodlands in the last 50 years, but some of the historic fields are open today. During phase 1, the open fields will continue to be maintained by leasing them whenever possible for haying or pasture, or barring that, through a program of controlled burning. As it becomes possible to do so, intrusions such as signs, utility poles, houses, and other modern structures will be removed. Modern intrusions outside the park that mislead or distract visitors will be screened with vegetation to blend with the historic scene wherever possible.

An ongoing parkwide archeological survey will be completed during phase 1 to locate and identify cultural resources in the park, and where possible, to precisely locate The Battle Road in those areas of the park where its historic alignment and configuration have not yet been determined. In addition, past documentary and archeological research will be synthesized and supplemented as necessary to ensure that adequate data are available to guide restoration and rehabilitation treatments proposed for historic structures, which are absolutely essential for interpretation of the historic scene. If adequate information is not available for restoration or rehabilitation of extant structures, alternative treatments will be determined. Unfortunately, it will not be possible to fully restore all structures present in 1775 because many period structures have been dramatically modified over the past 200 years, and none of the associated facilities (barns, outbuildings, wells, privies, or gardens) have survived, although archeological evidence may still exist.

All proposed work on historic structures will be preceded by the requisite historical, architectural, engineering, and archeological studies in accordance with NPS management, policies, and guidelines. All pre-1920 structures will be retained. Because a number of 18th-century structures



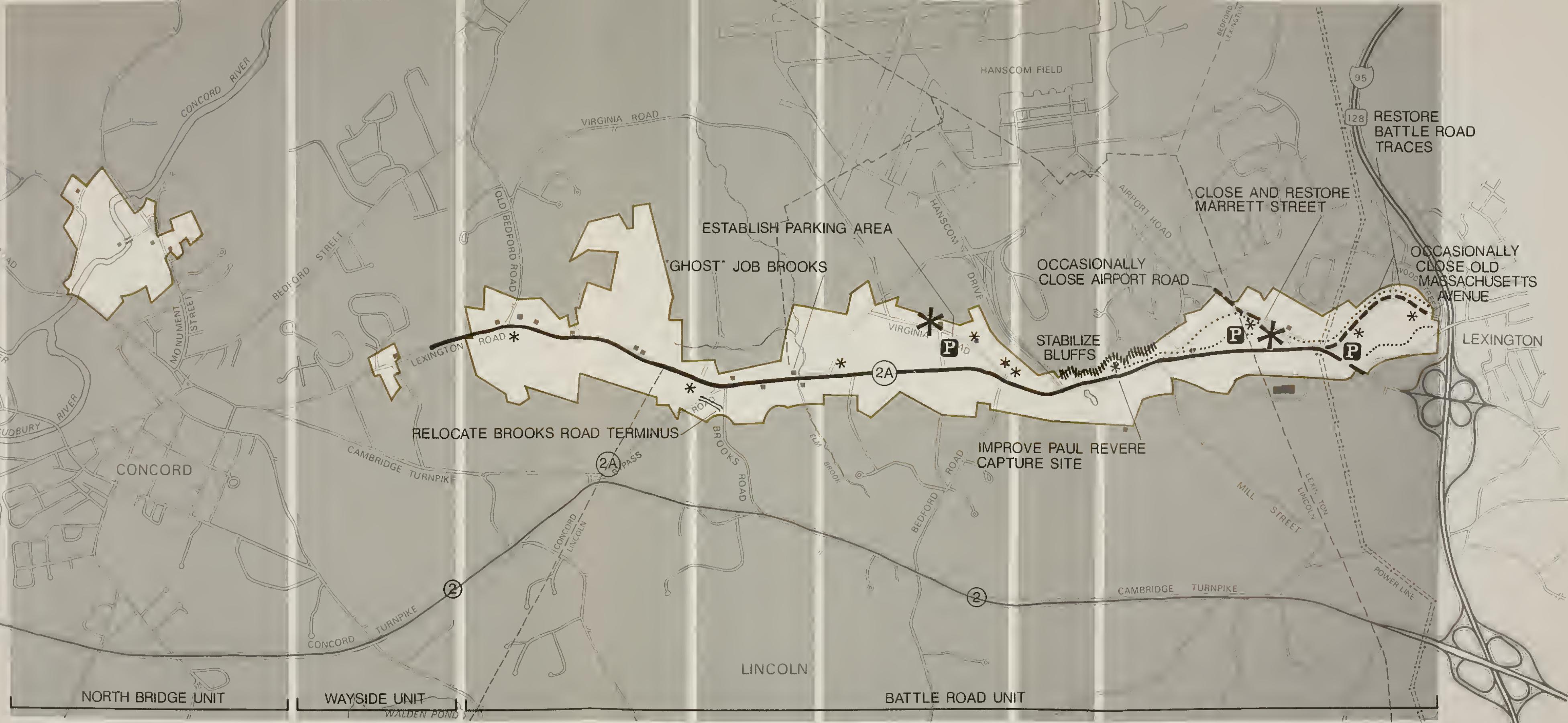
FISKE HILL THROUGH
NELSON ROAD

BATTLE ROAD UNIT
PROPOSAL-PHASE 1

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SHADYSIDE LANE THROUGH
MERIAM'S CORNER

OLD BEDFORD ROAD
TO SHADYSIDE LANE

VIRGINIA ROAD THROUGH
NELSON ROAD TO
VIRGINIA ROAD

FISKE HILL THROUGH
NELSON ROAD

PARK

EXISTING VISITOR ROUTE

PARKING

WAYSIDE EXHIBIT

TRAIL

VISITOR ORIENTATION POINT

BATTLE ROAD UNIT PROPOSAL-PHASE 1

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have been lost, the 19th-century buildings will help restore a sense of balance between structures and open fields that was present at the time of the battle. Approximately 15 modern (post-1920) structures will be removed as they come under NPS control.

Throughout phase 1 project-oriented research will be conducted to provide an adequate data base necessary to implement the developments anticipated in phases 2 and 3.

Directional signing to and throughout the park will be improved, especially in the Fiske Hill area where westbound visitors first encounter the park. This action will better enable visitors to experience all park resources and activities. The park staff is working with the Town of Concord to develop a coordinated, consistent approach to the use and design of directional signing. This effort will be expanded to include the other towns and the state. A wayside exhibit plan has been developed by the National Park Service and calls for 20 exhibits along The Battle Road that will provide orientation and interpretation of the area. However, only three of these require new construction of pulloffs for vehicles. In addition, orientation and interpretive media are being developed for use at the visitor centers.

The park will continue to work with the Concord Historical Collaborative and others to address shared concerns regarding signing and visitation and parking. The park will also continue to coordinate ongoing efforts with other agencies concerned with developing areawide or regionwide recreational or greenbelt systems, including bicycle paths and the Bay Circuit greenbelt.

Fiske Hill through Nelson Road. The intent of actions proposed in the Fiske Hill/Nelson Road area is to begin to link resources together into a cohesive visitor experience. The areas will not be completely connected physically until phase 2, but some actions can be accomplished that will begin the process.

A system of trails will be formalized and signed to lead visitors to battle-period resources in the area. Included in the trail route will be Fiske Hill, the Bluff, nearby house ruins and archeological sites, the unpaved Battle Road traces, and the Paul Revere Capture Wayside. Interpretation will emphasize the events of the 1775 battle.

The park will work with the Air Force to acquire the small closed portion of Patterson Road that intersects Nelson Road. This road pavement within the park boundary is very visible, and because this segment of The Battle Road is intended to represent the 1775 historic scene, the intrusion is especially inappropriate. When the road segment is acquired, pavement will be removed and the site screened with vegetation.

The park will also work with the state and the Town of Lexington to acquire Marrett Street and the excess right-of-way along Airport Road, approximately 12 acres of land. This land includes The Battle Road and the remains of an 18th-century house, and is not needed to provide

access to any private land. The historic Battle Road alignment will be restored to its approximate surface as has been done on the Nelson Road segment.

During high visitation periods (summer weekends, for example), guided interpretive programs will be offered in the Fiske Hill/Nelson Road area similar to programs now offered along Virginia Road. The purpose of the programs will be to expand public awareness of the extent of park resources as well as to supplement understanding of the events and significance of the April 19 running battle. The park will work with the Air Force and the Town of Lexington to close Airport Road and Old Massachusetts Avenue near the Fiske Hill parking area during the programs so that visitors can walk the battle route without interruption from traffic.

Nelson Road to Virginia Road. In this narrow section of the park, limited visitor use is anticipated in phase 1. Visitor use that does occur will be at the Paul Revere Capture Wayside, where a new wayside exhibit will be installed to supplement the existing historic plaque. Several site improvements will be made (such as ingress, egress, parking and increased vegetative screening) so the site will be consistent with other wayside exhibit pullouts planned for other sections of the unit.

The bluffs overlooking the Air Force Base, which are the result of excavation, are extremely unstable, and slope erosion is occurring on both park and Air Force property. The slope will be stabilized cooperatively by planting the slope and fencing the toe of the slope. Additional vegetation will also be planted to screen the airfield and the concentrated housing development adjacent to the park.

Virginia Road through Old Bedford Road. The Virginia Road area is another section in which a more cohesive visitor experience is possible. Much has already been accomplished with the restoration of the Ephraim Hartwell Tavern and William Smith House and the "ghosting," of the Samuel Hartwell House. Park staff currently conduct interpretive walks and tours in this area.

The National Park Service is developing an exhibit to interpret the Bloody Angles near the intersection of Old Bedford Road and Route 2A. An unpaved parking area for 10 cars will be constructed to accommodate visitors to the exhibit. Informal parking areas already in use will be stabilized at the William Smith House and Hartwell Tavern areas. The McHugh Barn will continue to be used as an interpretive support facility with improved bathrooms and exhibits.

Because portions of the Ephraim Hartwell Tavern are of different periods, it is difficult for visitors to understand what the 1775 structure looked like. An interpretive exhibit will show the changes that occurred to the structure over the past two centuries and indicate the portion of the building that had been constructed before the battle.

A foot trail will be constructed linking the historic features in this section and the proposed parking areas.

Old Bedford Road to Shadyside Lane. While this area is rich in historic resources, it is so severely impacted by Route 2A traffic that no significant visitor use can safely be accomplished during phase 1.

A wayside exhibit is being developed to interpret events at Hardy's Hill. A small pullout for three to five cars will be constructed south and west of the intersection of Lexington Road and Route 2A.

Although the Job Brooks House was present at the time of the battle, the only remaining historic fabric of that period is the internal frame. For that reason, no attempt will be made to restore the house to its 1775 appearance. Rather, the frame will be stabilized, and new exterior walls and roof will be added to protect the remaining historic fabric and to suggest the exterior appearance outline of an 18th-century structure.

The park will work with the state and the Town of Lincoln to relocate the north end of Brooks Road to improve safety and reduce impacts on the historic scene. Brooks Road currently intersects with a Battle Road section of Route 2A, and the relocation would connect Brooks Road with Bypass Road.

Shadyside Lane through Meriam's Corner. As in the other sections, a wayside exhibit pullout for three to five cars is planned for Meriam's Corner. This will be the only development in this area in phase 1 because of the heavy traffic on the modern roadway, but several other actions will be initiated to prepare for later development. These actions will require the following studies:

evaluation of the East Quarter Schoolhouse for use as a visitor contact center

feasibility of establishing a trail between Meriam's Corner and The North Bridge in conjunction with the Town of Concord that would approximate the route taken by the patriots on April 19, 1775

archeological survey work at the park to locate the route of The Battle Road at Meriam's Corner

Depending on the results of the archeological research, a new development concept plan for Meriam's Corner may be needed during phase 1.

Phase 2

Unitwide. The proposed preservation treatments and adaptive uses of historic structures are shown in table 2. During phase 2, a number of buildings will be restored and archeological sites protected based on the results of phase 1 studies. While some structures that are key to the interpretive story will be completely restored, most structures will be

Table 2: Proposed Treatments for Cultural Resources - Battle Road Unit

Resource (Structures)	Date of Construction	Present Use	Proposed Treatment	Phase 1 Proposed Use	Phase 2 Proposed Treatment	Phase 2 Proposed Use	Phase 3 Proposed Treatment	Phase 3 Proposed Use
Jacob Whitemore House	Prior to 1774	Residence	Maintain	Residence	Restore exterior to 1775	Interpret		
John Nelson House and Barn	1810	Residence	Maintain	Residence	Restore exterior to 19th cen- tury; adapt interior for modern pur- poses	Visitor center		
William Smith House	Post-1693; restored by NPS 1985	Park inter- preted site	Maintain	Interpret				
Ephraim Hartwell Tavern	Earliest structure built 1732; restored by NPS 1983	Park inter- preted site	Maintain 1775 element; differentiate post-1775 ele- ments	Interpret				
McHugh Barn Foundation,	1820	Park adminis- tration	Maintain	Interpretive support unit				
Joshua Brooks House	1781	Residence	Maintain	Residence	Restore exterior to 1775 for interpretation; adapt interior for modern purposes	Residence		
Job Brooks House	ca. 1760	Storage	Convert to 1775 solid ghost	Interpret				
Samuel Brooks House	1733	Residence	Maintain	Residence	Restore exterior to 1775 for interpretation; adapt interior for modern purposes	Residence		
Noah Brooks Tavern	1810	Residence/ adminis- tration	Maintain	Administration/ housing	Restore exterior to 1810	Same as phase 1	Same as phase 2	Operations center/ visitor contact
Olive Stow House	1760	Residence	Maintain	Residence	Restore exterior to 1775 for interpretation; adapt interior for modern purposes	Residence		
Farwell Jones House	Pre-1775	Residence	Maintain	Residence	Restore exterior to 1775 for interpretation; adapt interior for modern purposes	Residence		
George Minot House	1865	Residence	Maintain	Residence	Restore exterior and adapt interior for modern pur- poses	Residence		

Resource (Structures)	Date of Construction	Present Use	Phase 1		Phase 2		Phase 3	
			Proposed Treatment	Proposed Use	Proposed Treatment	Proposed Use	Proposed Treatment	Proposed Use
East Quarter Schoolhouse	1854	Residence	Maintain	Residence	Restore exterior and adapt interior	Visitor contact station		
John Merriam House	Ca. 1680	Residence	Maintain	Residence	Restore exterior for interpreta- tion; adapt interior for modern usage	Administration		
Daniel Taylor House	Ca. 1810	Residence	Maintain	Residence				
Archeological Resources								
The Battle Road Ebenezer Fiske Site			Locate Protect	Study Interpret	Protect	Interpret	Restore surface	Interpret
David Fiske Site			Excavate for data Locate	Resource data base Study	Protect	Interpret		
Jonas Bateman Site			Protect	Interpret				
Tabitha Nelson Site			Protect	Interpret				
Thomas Nelson, Jr. Site			Protect	Interpret				
Josiah Nelson Site Sites 22 and 23			Protect Excavate for data Locate	Same as phase 1 Study	Interpret			
Jacob Foster Site Ebenezer Lameson Site			Locate Locate	Study Study	Protect Protect	Interpret Interpret		
Joseph Mason Site Schoolhouse A			Locate Locate	Study Study	Protect Protect	Interpret Interpret		
Prehistoric Site #19-MD-119			Protect	Resource data base	Protect	Interpret		
Deacon Joshua Brooks Tannery and Slaughter- house Site			Protect	Study	Protect	Interpret		
Alfred Brooks Site Thomas Brooks Site Abel Brooks Site Nathan Merriam Site Eliphiel Fox Site George Minot Site Prehistoric Site #19-MD-89			Locate Locate Locate Locate Locate Locate Locate	Study Study Study Study	Protect Protect Protect Protect	Interpret Interpret Interpret Interpret	Resource data base	
Blacksmith Shop B Prehistoric Site #19-MD-487				Study Resource data base	Protect	Interpret		
Prehistoric Site #19-MD-88				Resource data base	Protect			

adaptively used, and only those portions visible from The Battle Road will be restored to their historical appearance.

As in phase 1, removal of signs, houses, and other modern visual intrusions will continue as it becomes possible to do so.

The landscape replication plan developed in phase 1 will be implemented in the three primary resource areas--Fiske Hill/Nelson Road, Virginia Road, and Meriam's Corner.

Replication of the historic landscape character will be directed towards creating visitor understanding of the 1775 environment and will include re-creation of the basic land use and cover conditions present at the time of the battle. This includes open fields, orchards, and natural woodland (see Landscape Replication map). Specific crops, trees, or ecological units will as a general rule not be replicated because specific information of that detail is missing for many areas of the park, and overly restrictive requirements will reduce the potential for historic leasing and greatly increase maintenance costs.

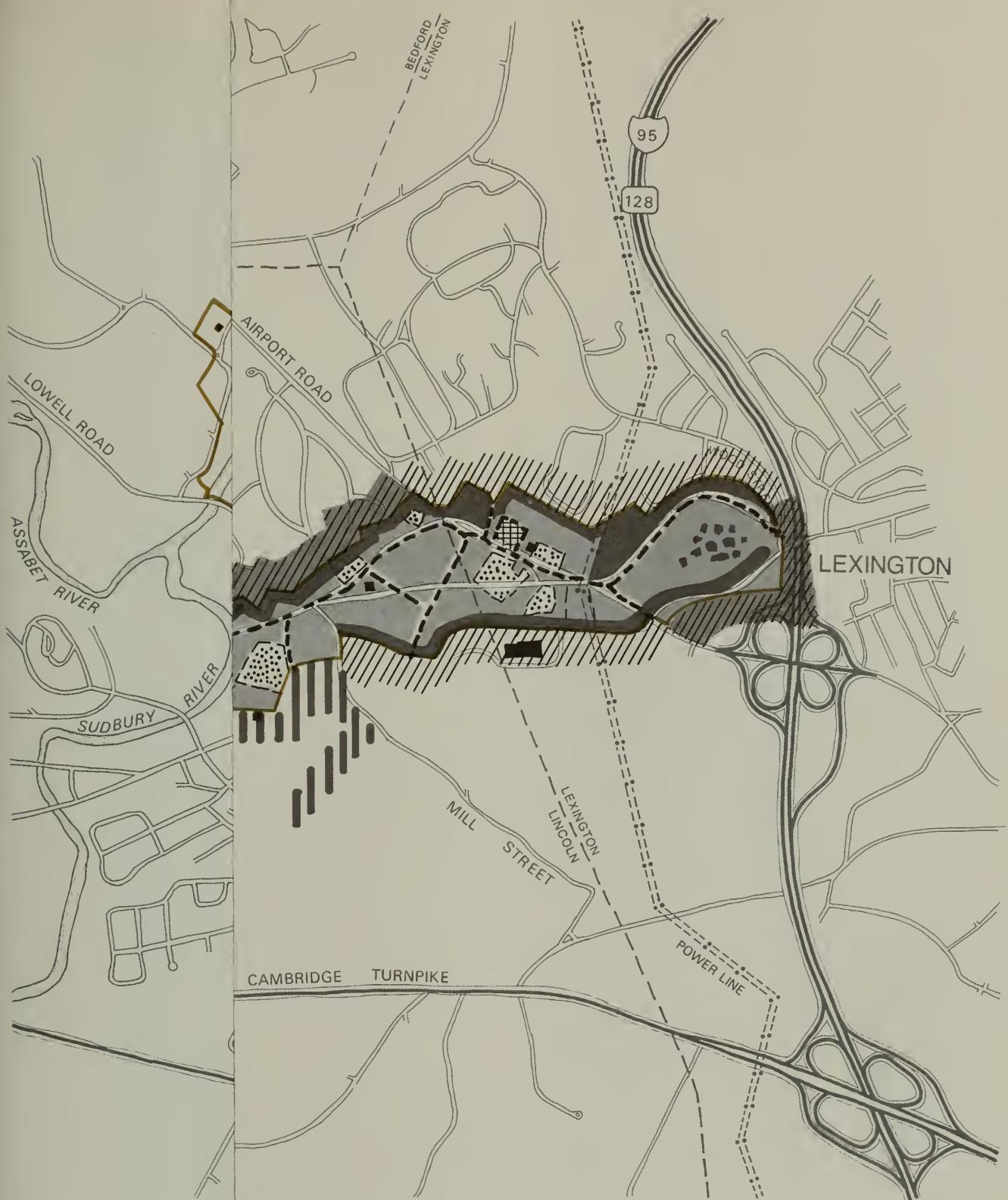
The replication of the historical character will require adjustments in the landscape replication plan, especially at the park boundaries where it is necessary to screen modern intrusions. The amount of screening actually required will depend on the type of land use adjacent to or visible from the park. For example, some park lands in the Battle Road unit are adjacent to town conservation lands, and unless specific views interfere with the historical character, no vegetative screening should be undertaken. Likewise, low density residential development will typically require a moderate amount of screening while high density residential and commercial development will require heavy screening. It is expected that plant materials for this purpose will include coniferous as well as deciduous trees to provide year-round screening.

The Battle Road will be closed to traffic and restored to its 1775 configuration where it diverges from Route 2A and Lexington Road within the primary resource areas. To protect the original road surface where it still exists, the replicated road surface will overlie the original. Parking areas added to primary resource areas will be carefully sited behind stone walls, vegetative or some other unobtrusive screen. In areas where this is not possible, the parking surface should blend in with its surroundings.

Where practical, hiking and biking trails will be established to parallel The Battle Road. As opportunities arise, these trails may link to regional hike and bike trail networks.

Projects related to the treatment of cultural resources located along the Battle Road will continue and include those listed in table 2.

Fiske Hill through Nelson Road. In phase 2, the intersection of Route 2A and Marrett Road will be realigned away from the Bluff so that visitors may walk along The Battle Road from Fiske Hill to Nelson Road. This



LANDSCAPE REPPLICATION
MINUTE MAN
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ADJACENT LAND USE

- PARK
- ||||| CONSERVATION LAND
- ||||| HIGH INTENSITY USE
- ||||| MODERATE INTENSITY USE

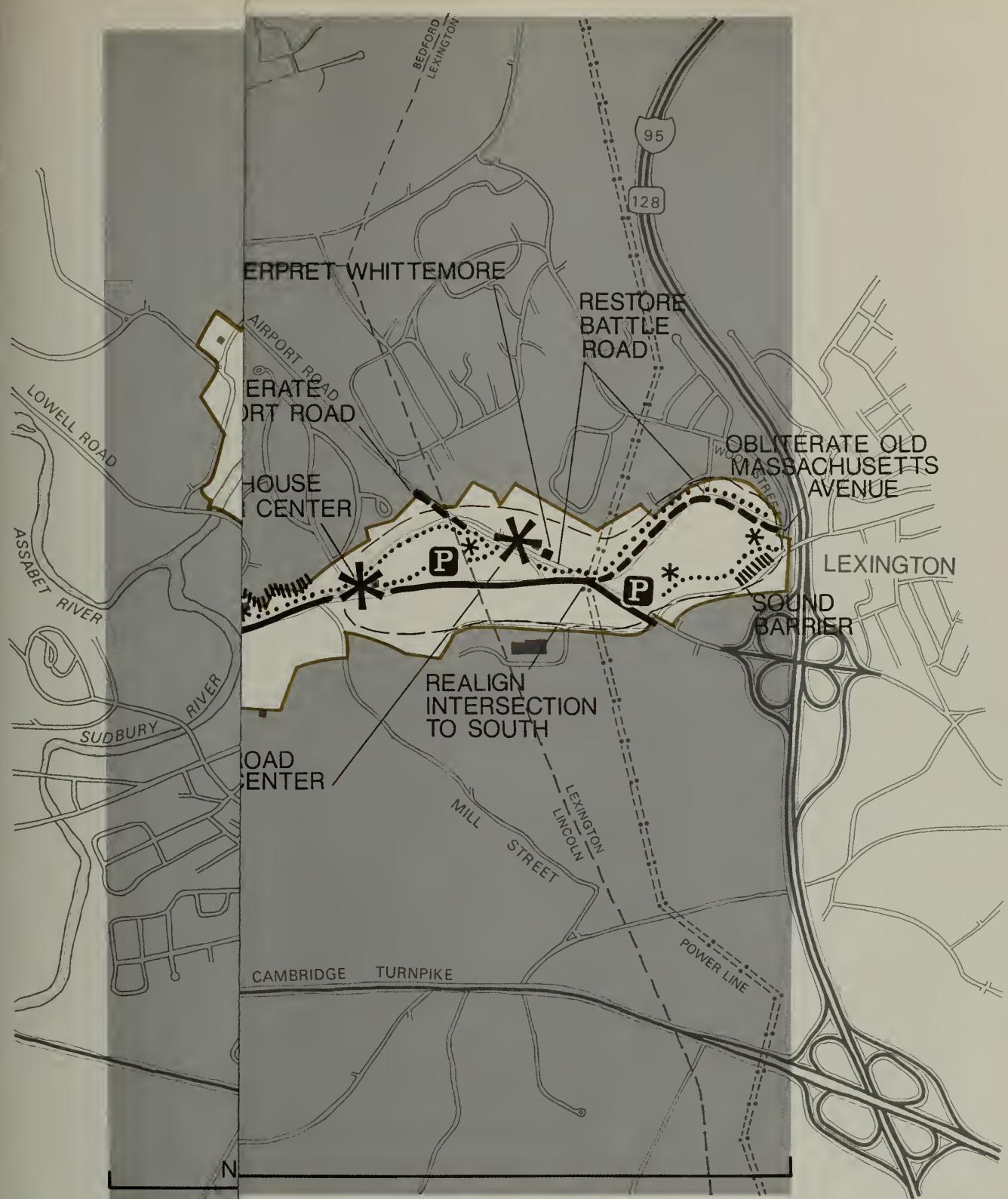
LANDSCAPE REPPLICATION

- TILLED FIELD
- FOREST
- ORCHARD
- - - - - STONE WALL
- - - - - FENCE
- OPEN FIELD

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NORTH

LANDSCAPE REPPLICATION
MINUTE MAN
NATIONAL HISTORICAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE



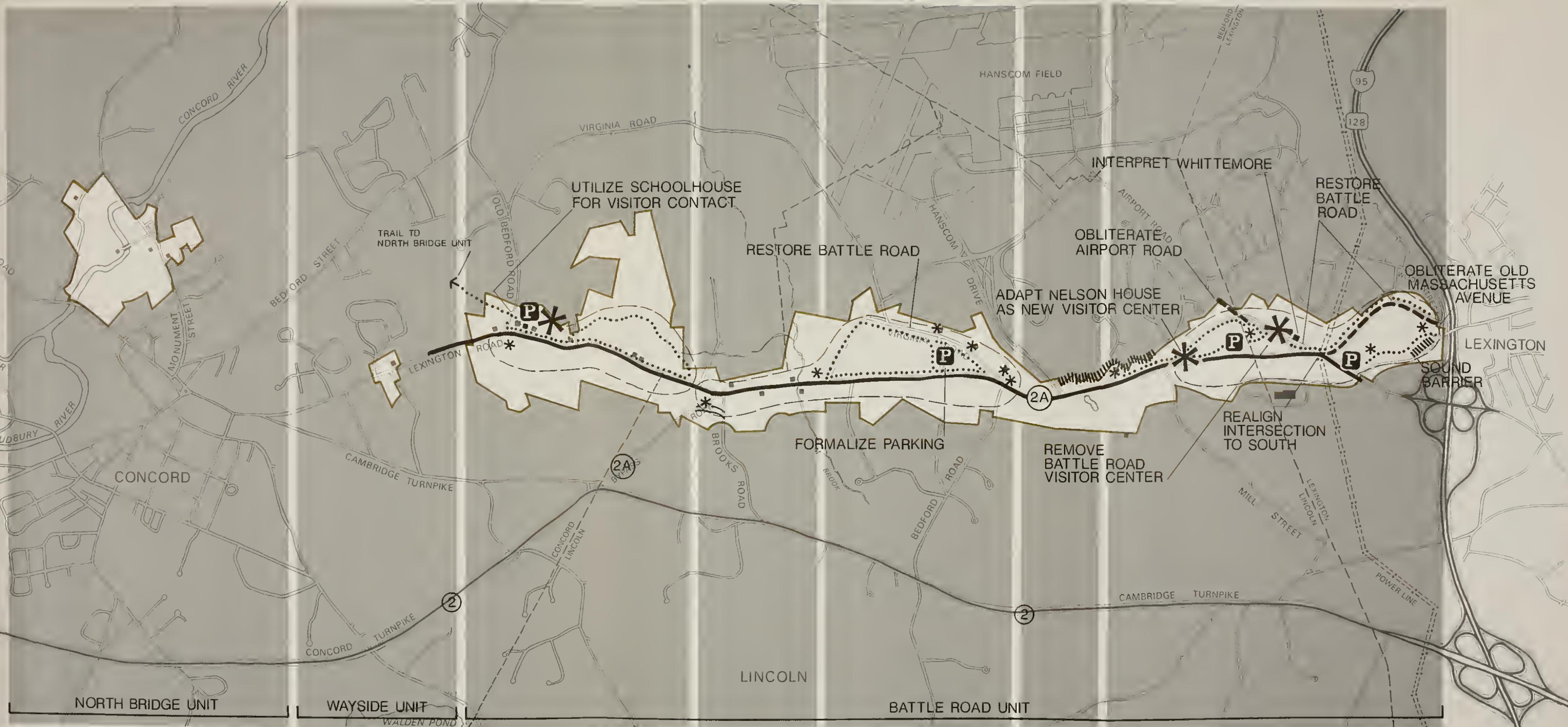
FISKE HILL THROUGH
NELSON ROAD

BATTLE ROAD UNIT
PROPOSAL-PHASE 2

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UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

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SHADYSIDE LANE THROUGH
MERIAM'S CORNER

OLD BEDFORD ROAD
TO SHADYSIDE LANE

VIRGINIA ROAD THROUGH
OLD BEDFORD ROAD

NELSON ROAD TO
VIRGINIA ROAD

FISKE HILL THROUGH
NELSON ROAD

- PARK
- TRAIL
- EXISTING VISITOR ROUTE
- VISITOR ORIENTATION POINT
- PARKING
- OBLITERATED ROAD
- * WAYSIDE EXHIBIT
- RESTORE LANDSCAPE



BATTLE ROAD UNIT PROPOSAL-PHASE 2

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realignment will physically connect the Fiske Hill/Nelson Road areas into one unit.

To further restore integrity to the unit, Old Massachusetts Avenue and Airport Road will be closed and obliterated, and the entire Battle Road from Fiske Hill to Nelson Road will be restored to its approximate historic alignment and surface condition. Parking will be retained at Fiske Hill so that visitors may leave their vehicles there and walk to the Paul Revere Capture Wayside via The Battle Road and interpretive trails. Segments of trails developed in phase 1 will be connected to complete the trail system within this section.

To further enhance the visitor experience, the trails will need some additional vegetative screening. The Fiske Hill trail comes very close to New Massachusetts Avenue and Route 128, and the noise from these two roads impacts visitors on the trail and at the Ebenezer Fiske House foundation. The park will work with the state officials to plan and install appropriate sound barriers that will decrease traffic noise. This will include vegetative screening of the sound barriers themselves. The Battle Road traces on the north lie within visible distance of a housing development. Evergreens will be planted to increase the existing vegetative screening.

The modern design of the Battle Road Visitor Center is inconsistent with the long-range goal of restoring the historic scene to the maximum extent feasible. For this reason, the visitor contact function will be relocated to the nearby John Nelson House and Barn. While not of the battle era, the 1810 facade and 1850s addition to the house will contribute to the park's historical character better than the existing modern structure. A structural analysis of the house and barn will be conducted. Once the John Nelson House and Barn have been adapted, the modern visitor center will be removed. The existing parking area will be retained in phase 2 and a new footpath constructed from there to the John Nelson House.

The Jacob Whittemore House, located near the existing visitor center, retains much of its historical integrity. For this reason, as well as its proximity to other significant resources, the house exterior and its setting will be restored to represent their 1775 appearance. The site will be used to interpret a representative farm and residence during the battle, but no reconstruction of outbuildings or other structures will be attempted. Interpretation at this site will complement interpretive sites that exist along Virginia Road, including the William Smith House; Ephraim Hartwell Tavern, and Samuel Hartwell House Foundation site.

Nelson Road to Virginia Road. No further development is proposed for this section in phase 2.

Virginia Road through Old Bedford Road. In this phase, the existing parking area on Bedford Lane will be formalized to accomodate 20 cars, and all parking will be removed from along The Battle Road. The Ephraim Hartwell Tavern, the William Smith House, and the ghosted

Samuel Hartwell House Foundation Shelter will be accessible by foot from the Bedford Lane parking area or from the wayside exhibit pullouts constructed in phase 1. As modern properties are removed, portions of The Battle Road will be closed to vehicles and restored to their approximate appearance.

Old Bedford Road to Shadyside Lane. No further development beyond that proposed in phase 1 is proposed for this section in phase 2.

Shadyside Lane through Meriam's Corner. If found feasible in phase 1, the East Quarter Schoolhouse just east of the John Meriam House will be rehabilitated to serve as a visitor contact station for the west end of the Battle Road unit. This structure will serve to orient eastbound visitors to The Battle Road as well as to Meriam's Corner itself. It will be designed to function as an unstaffed facility during times of low visitation, and parking will be provided nearby with walkways leading to the schoolhouse and to the John Meriam House.

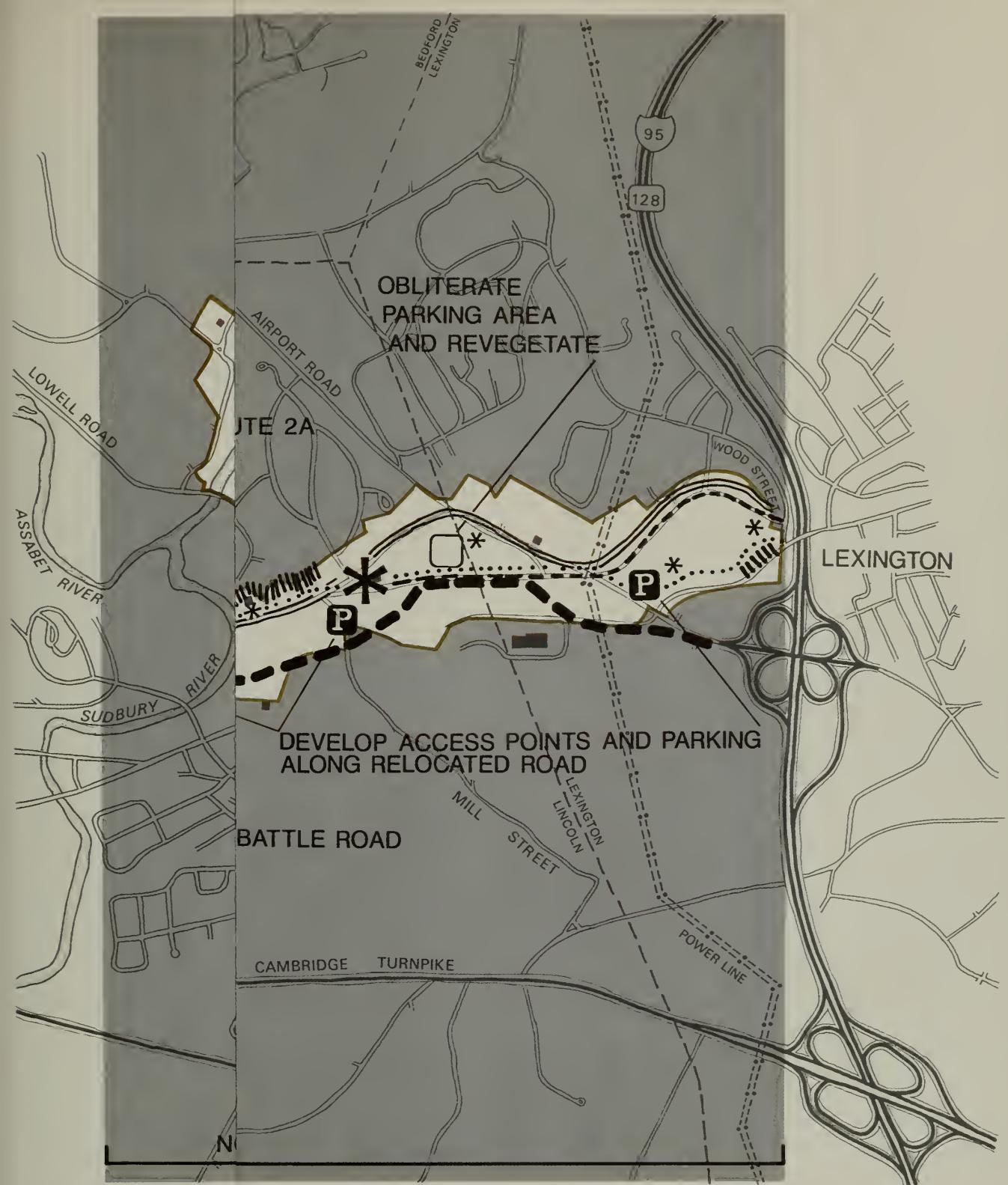
Two trails are proposed. The first, an interpretive loop trail, will be established to link the historic resources in the Meriam's Corner area. The portion of the trail north of The Battle Road will interpret the colonial point of view during the battle. The second trail, if found feasible in phase 1, is hiking and/or biking trail to link Meriam's Corner with the North Bridge unit. The trail will also emphasize the movement of the minute men on the battle day.

Phase 3

Phase 3 calls for Route 2A to be relocated. This document presents a 2A road corridor that the National Park Service believes is most feasible and best meets its objectives. However, because it is beyond the scope of this document to undertake a full design analysis of such a road, minor changes in the corridor may be necessary when the actual road design is undertaken.

Information on phase 3 is therefore presented on a unitwide basis. Conceptual alternatives to the proposed relocation were also considered and are described separately as are possible environmental impacts of the proposal and its alternatives. A description and analysis of alternative corridors in which to relocate Route 2A considered by the National Park Service is presented later in this section.

The proposed new road should be designed to serve as visitor access to park sites, and should provide an aesthetically pleasing as well as an efficient drive--a heritage highway concept. It is envisioned that it would be a two-lane, limited access road with a moderate design speed. The east end of the proposed corridor leads from the intersection of New Massachusetts Avenue and Route 2A north of the Minuteman Regional Vocational-Technical School, swings south around Folly Pond, and underpasses the historic Battle Road to join Hanscom Drive. As part of the 2A relocation project, it is desirable to redesign Hanscom Drive in



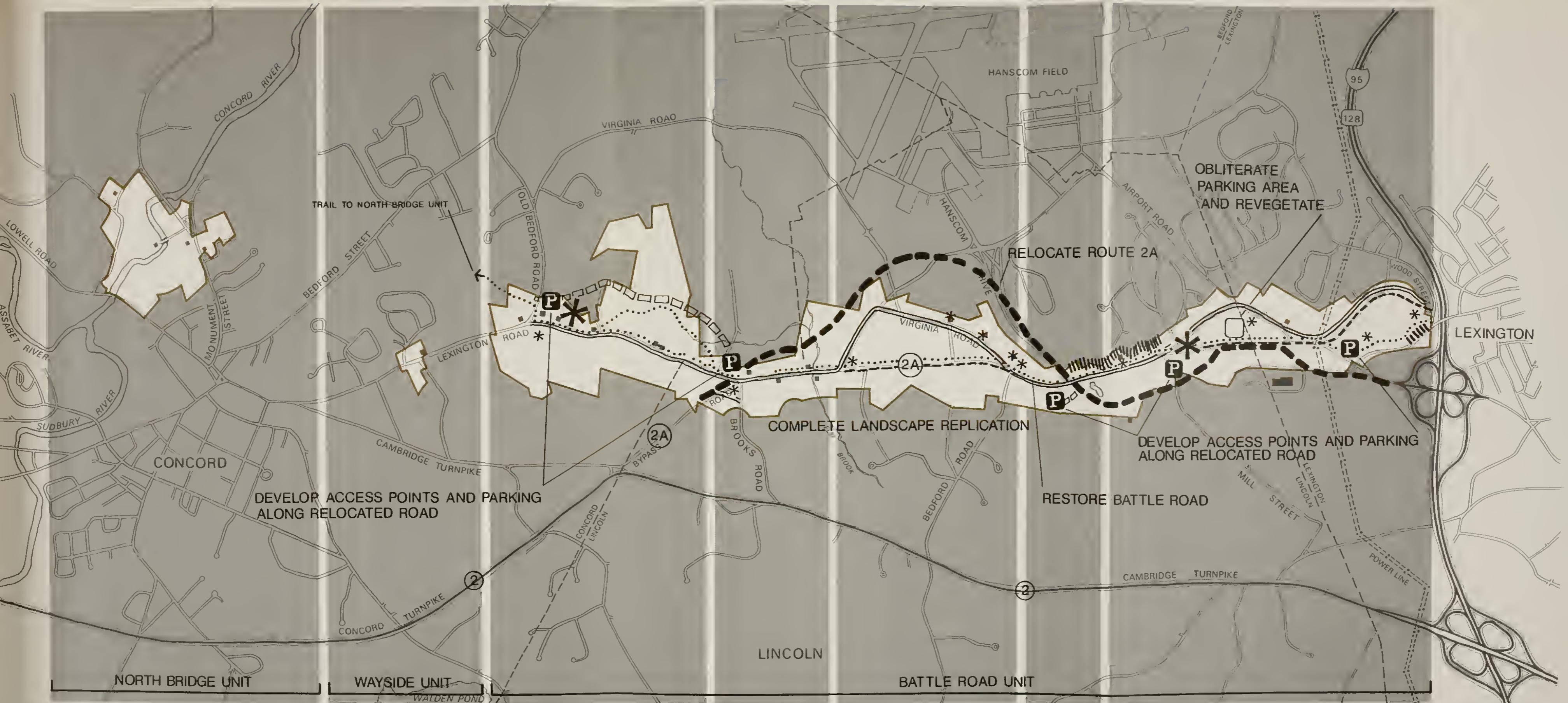
FISKE HILL THROUGH
NELSON ROAD

BATTLE ROAD UNIT
PROPOSAL-PHASE 3

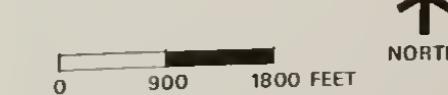
MINUTE MAN
NATIONAL HISTORICAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

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NORTH



BATTLE ROAD UNIT
PROPOSAL-PHASE 3
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NATIONAL PARK SERVICE



order to reduce its present scale. This reconstruction would be done to maintain a uniform appearance to the relocated Route 2A. From Hanscom Drive the preferred relocation will cross Virginia Road via the new North Lincoln development road then cross part of the Bedford Levels. The new road will underpass The Battle Road a second time near Hardy's Hill and will join with Bypass Road.

A new park connector road will also be constructed north of Meriam's Corner to provide visitor access from Old Bedford Road to the relocated 2A. This will be a low speed, curvilinear road designed to provide a necessary link between these points. Commuter use will be discouraged on this connector road. As needed, vegetative screening will be used in the park to minimize impacts of the new roads. In addition to the proposed corridor for road, two other corridors were considered early in the planning process. One, a corridor leading from Old Bedford Road, south of Lexington Road, and then connecting to Route 2A, was rejected because of the amount of wetlands that would be affected; the other corridor, using the existing Lexington Road corridor for traffic, was rejected because it would preclude restoration of The Battle Road in that area, where the running battle began, and continue to make interpretation of Meriam's Corner difficult if not impossible.

The state and towns will decide which side roads that cross or intersect the existing 2A alignment will be terminated near the park boundary, or will be linked to other roads or the new road to provide access to and from residential and commercial areas. The access road to the Lincoln trash transfer station will be relocated and the present road obliterated.

Approximately 4 miles of pavement and all traffic will be removed from The Battle Road, and the historic alignment and surface will be replicated as accurately as feasible. As in phase 2, where the actual historic road surface remains, the replicated surface will overlie it in order to preserve the original road. Nonhistoric portions of the existing 2A alignment will be obliterated or used for trail alignment. The park will work with the towns and other agencies to prepare an emergency access plan that will detail procedures for police, ambulance, fire equipment, and other emergency vehicle access to all parts of the the Battle Road unit.

At the completion of phase 3, visitors will be able to walk The Battle Road from Meriam's Corner to Fiske Hill. A bicycle trail, roughly parallel to but not using the historic road, will provide another way of traversing the length of the park and also possible access for emergency vehicles. Nonhistoric portions of the existing 2A alignment may be used for part of the bicycle trail.

Because many visitors will be unwilling or unable to walk or bicycle the entire $3\frac{1}{2}$ mile length of this unit of the park, five access points are required. Provision for parking, orientation and information, drinking water, and restrooms will be made. These access points will allow visitors to park within short walking distances of primary resources and to select a wide variety of long or short walks along The Battle Road. The location of these access points will be determined as part of planning

required to implement phase 3 actions. The access points and current estimated parking requirements are as follows:

Fiske Hill Area - Restrooms and orientation wayside exhibits will be provided at the existing parking area.* This parking area currently accommodates 22 vehicles, and is expected to adequately serve future park needs for this area.

John Nelson House and Barn - The visitor center will remain as developed in phase 2. A new parking area for 40 vehicles* will be accessible from relocated Route 2A. The existing visitor center parking area will be obliterated after the new parking area has been developed.

Virginia Road Area - Parking for 40 vehicles,* restrooms, and orientation wayside exhibits will be accessible off relocated Route 2A. The parking area developed on Bedford Lane in phase 2 will be removed.

Hardy's Hill Area - Parking for 20 vehicles,* restrooms, and orientation wayside exhibits will be accessible off relocated Route 2A.

Meriam's Corner - Visitor contact at the East Quarter Schoolhouse will be available with nearby parking for 40 vehicles.* A new road will be constructed to provide visitor access from Old Bedford Road to the parking area and to the Route 2A relocation.

ALTERNATIVES

In addition to the proposal, three other conceptual alternatives were considered for the Battle Road unit. These alternative park concepts are referred to as the minimum requirements, string of pearls, and tour road alternatives. Many specific development actions associated with these alternatives are similar to those described in the proposal. The Battle Road unit's limited land area, NPS policy and guidelines for cultural resources management, and the need for realistic development expenditures do not always allow a wide range of alternatives for individual actions. It is important to note that the visitor experience offered by the proposal and each alternative differs significantly. Comparisons of the proposed treatments of historic buildings under each of the alternatives is presented in table 3.

In the proposal, visitors would follow the steps of the British soldiers and colonial militia along a road that would appear much as it did in 1775. Modern intrusions would be minimized, and visitors could conceivably experience the entire unit without interruption from traffic and modern roads. In the minimum requirements alternative, visitors would

*Capacities for parking areas are based on current anticipated visitation and may require future adjustment.

experience the unit much as they do now. Because of the modern highway and heavy traffic, no historical atmosphere would be retained except at one or two small areas along Route 2A. The string of pearls alternative would provide a series of historical experiences in several locations, or pearls, along The Battle Road. However, visitors would still have to travel along Route 2A and Lexington Road. Ever-increasing numbers of vehicles using Route 2A would eventually lead to pressure to widen the road, which could further endanger the park visitor and detract from the overall visitor experience. The tour road alternative would be the most similar to the proposal, except that visitors would drive rather than walk The Battle Road. The historical atmosphere would be contiguous throughout the unit, but modern pavement and vehicles would always be present.

Minimum Requirements Alternative

NPS guidelines require examination of an alternative in which only the minimum actions are taken to provide for park management and administration, visitor safety and basic services, and protection of park resources. Under this alternative, visitors who wish to see resources along The Battle Road would do so as now via Lexington Road and Route 2A. The park would work with the state and towns to install traffic signals, pedestrian crossing lights, or other devices to reduce traffic hazards for visitors.

Orientation and directional signing would be improved in cooperation with the towns, and interpretive wayside exhibits would be installed as currently being planned by the Harpers Ferry Center. Exhibit improvements would also be made at the Battle Road Visitor Center.

Historic structures would be maintained, and most would continue in use as residences. Nonhistoric structures and other modern (post-1920) intrusions within the park would be removed as they come under NPS control.

The park landscape would appear much as it does now, but roadside mowing and highlighting of historic walls and fence styles would be used to help differentiate the park area from surrounding lands. The eroding bluff along the NPS-Air Force boundary would be stabilized.

To preserve as much of the historic road trace as possible, Marrett Street would be acquired and rehabilitated for visitor pedestrian use. The park would also work with the Air Force and the Town of Lexington to close Airport Road and Old Massachusetts Avenue at times to reduce modern impacts in the Nelson Road-Fiske Hill area.

String of Pearls Alternative

Under this alternative, as in the minimum requirements alternative, visitors would drive Lexington Road and Route 2A to see the unit.

However, this alternative would undertake more extensive development and historic restoration in key resource areas to provide a series of minipark experiences (pearls) along the battle route. Between the pearls, little historic restoration or interpretation would occur.

Signs, wayside exhibits, and improvements at the Battle Road Visitor Center would be implemented as in the minimum requirements alternative.

Parking would be retained at Fiske Hill and the Battle Road Visitor Center for access to the Fiske Hill/Nelson Road portions of The Battle Road. Old Massachusetts Avenue would be closed and obliterated, and Marrett Street would be closed and restored to its approximate historic surface. Route 2A would be realigned to the south near the Bluff to allow visitors to walk the historic route around the Bluff. All portions of The Battle Road within the pearl areas would be restored. Wayside exhibits or a tour brochure would interpret the route.

Additional trails would lead over Fiske Hill to The Battle Road traces and from Nelson Road to the Paul Revere Capture Wayside. Exhibits are being upgraded at the Battle Road Visitor Center.

The Jacob Whittemore and John Nelson houses would retain adaptive use as modern residences, but their exterior facades visible from The Battle Road would be restored to their 18th- and 19th-century appearances, respectively. Other historic structures would be maintained but not restored. Nonhistoric structures and other modern intrusions would be gradually removed throughout the park with priority given to intrusions within pearl areas.

Landscapes within the pearls would be managed to approximate the historical balance between open and forested areas, except that vegetative screening of intrusions would be retained where needed. The eroding bluff along the park-Air Force boundary would be stabilized.

As properties along Old Bedford and Virginia roads (portions of The Battle Road) revert to NPS control, modern structures would be removed and the historic road closed and restored to its approximate alignment and surface. The McHugh Barn (near the tavern) would be retained for visitor orientation, special programs, and public restrooms.

Formalized parking would be developed on Bedford Lane for access to the Ephraim Hartwell Tavern and the William Smith House and to provide visitors an opportunity to walk the Virginia Road portion of The Battle Road as well as participate in guided interpretive programs.

Near Meriam's Corner, a parking area would be developed at the present Willow Pond Restaurant site. A walkway would lead visitors to the historic John Meriam House, and a series of wayside exhibits or a tour brochure would discuss the April 19 battle events at that site. A trail connection to the North Bridge unit would provide hiking and bicycling opportunities.

Tour Road Alternative

As with the proposal, this alternative requires relocation of Route 2A. The Battle Road would become a vehicular tour road for visitors, and only the Old Bedford Road-Virginia Road and the Fiske Hill/Nelson Road portions of the historic trace would be closed to vehicles and restored to their approximate alignment and surface. Airport Road and Old Massachusetts Avenue would be closed and obliterated.

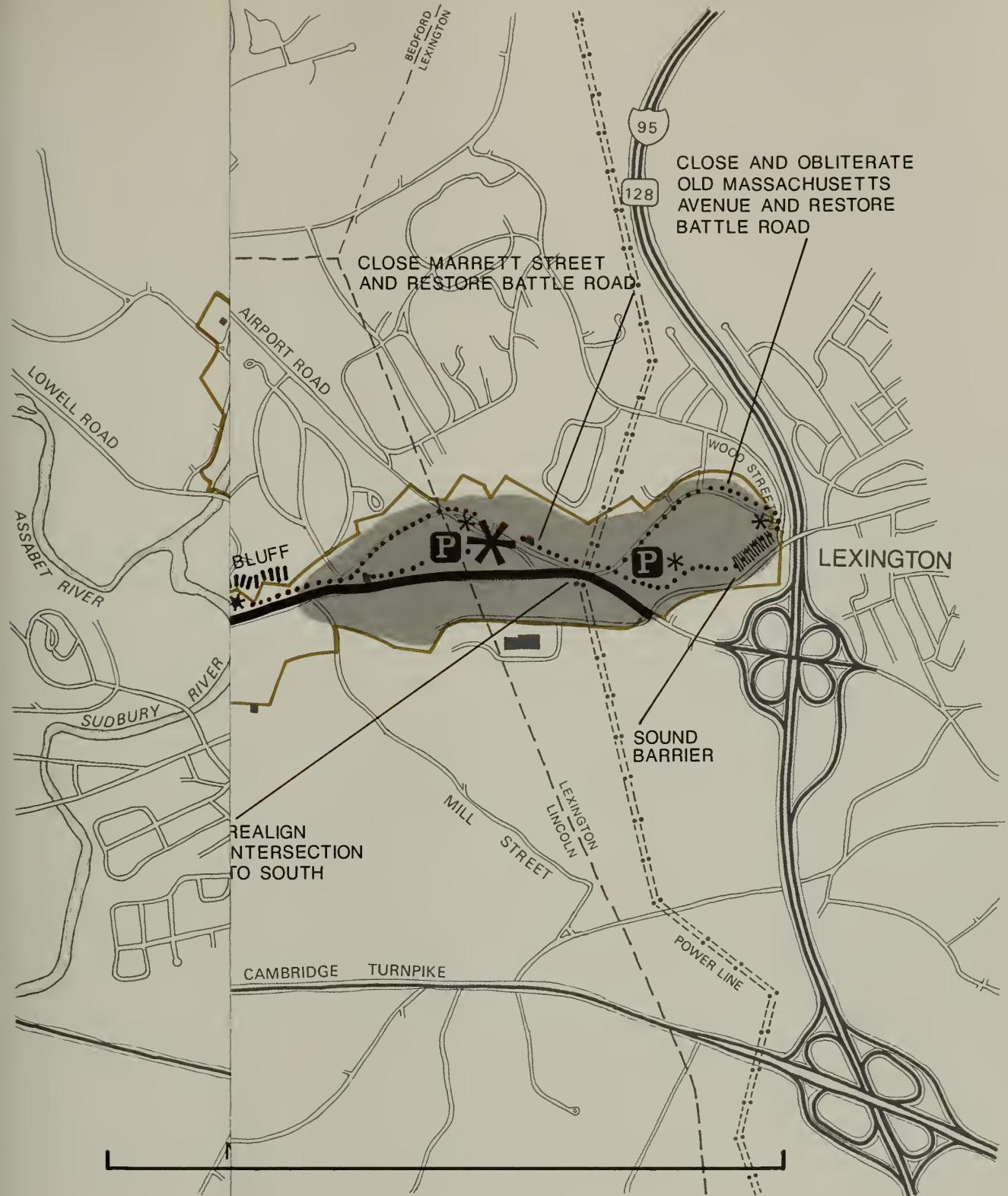
Signs, wayside exhibits, and trails would be implemented as in the other alternatives, and additional wayside pullouts would be developed along the tour road. The Battle Road Visitor Center would be removed and the visitor contact function relocated to the John Nelson House and Barn. This would allow easier visitor circulation along the tour road and keep modern vehicles off the Nelson Road portion of the historic route. The existing parking area would be retained with vehicular access from the nonhistoric portion of the tour road.

Historic structures would continue in adaptive uses, but all period facades visible from the tour road would be restored. Nonhistoric structures and other intrusive features would eventually be removed from the entire unit.

The pearl areas described in the string of pearls alternative would be similarly developed in this alternative, but the historical atmosphere would also continue along the tour road between the pearls. Replication of historic landscapes would be undertaken the full length of the unit as in the proposal.

Table 3: Summary of Proposal and Alternative Treatments and Uses of Historic Structures - Battle Road Unit

Resource	Proposal		Minimum Requirements Alternative		String of Pearls Alternative		Tour Road Alternative	
	Treatment	Use (Phase 3)	Treatment	Use	Treatment	Use	Treatment	Use
Jacob Whittenore House	Remove barn/ restore exterior to 18th century	Interpret/ administration	Maintain	Residence	Restore exterior to 18th century	Interpret/ administration	Restore exterior to 18th century	Interpret/ administration
John Nelson House and Barn	Restore exterior to early 19th century	Visitor center	Maintain	Residence	Restore exterior to early 19th century	Interpret exterior/ residence	Restore exterior to early 19th century	Interpret exterior/ residence
William Smith House	Maintain	Interpret	Maintain	Interpret	Maintain	Interpret	Maintain	Interpret
Ephraim Hartwell Tavern	Maintain/differentiate post-1775 elements	Interpret	Maintain/differentiate post-1775 elements	Interpret	Maintain/differentiate post-1775 elements	Interpret	Maintain/differentiate post-1775 elements	Interpret
McHugh Barn	Maintain	Interpretive support unit	Maintain	Administrative	Maintain	Interpretive support unit	Maintain	Interpretive support unit
Joshua Brooks House	Restore exterior to 18th century	Interpret exterior/ residence	Maintain	Residence	Maintain	Residence	Maintain	Residence
Job Brooks House	Solid ghost to 18th century	Interpret	Mothball	Mothball	Mothball	Solid ghost to 18th century	Interpret	Interpret
Samuel Brooks House	Restore exterior to 18th century	Interpret exterior/ residence	Maintain	Residence	Restore exterior to 18th century	Residence	Restore exterior to 18th century	Interpret
Noah Brooks Tavern	Restore exterior to 1810	Unit operations center/visitor contact	Maintain	Administration and residence	Maintain	Residence	Maintain	Unit operations center
Olive Stowe House	Restore exterior to 18th century	Interpret exterior/ residence	Maintain	Residence	Maintain	Residence	Restore exterior to 18th century	Interpret exterior/ residence
Farwell Jones House	Restore exterior to 18th century	Interpret exterior/ residence	Maintain	Residence	Maintain	Residence	Restore exterior to 18th century	Interpret exterior/ residence
George Minot House	Restore exterior	Interpret exterior/ residence	Maintain	Residence	Maintain	Residence	Restore exterior	Interpret exterior/ residence
Schoolhouse	Rehabilitate	Visitor contact	Maintain	Residence	Maintain	Residence	Rehabilitate	Visitor contact
John Meriam House	Restore exterior to 1775	Interpret exterior/ administration	Maintain	Interpret exterior/ residence	Restore exterior to 1775	Interpret exterior/ residence	Restore exterior to 1775	Interpret exterior/ residence
Daniel Taylor House	Maintain	Adaptive use/ residence	Maintain	Residence	Maintain	Residence	Maintain	Residence

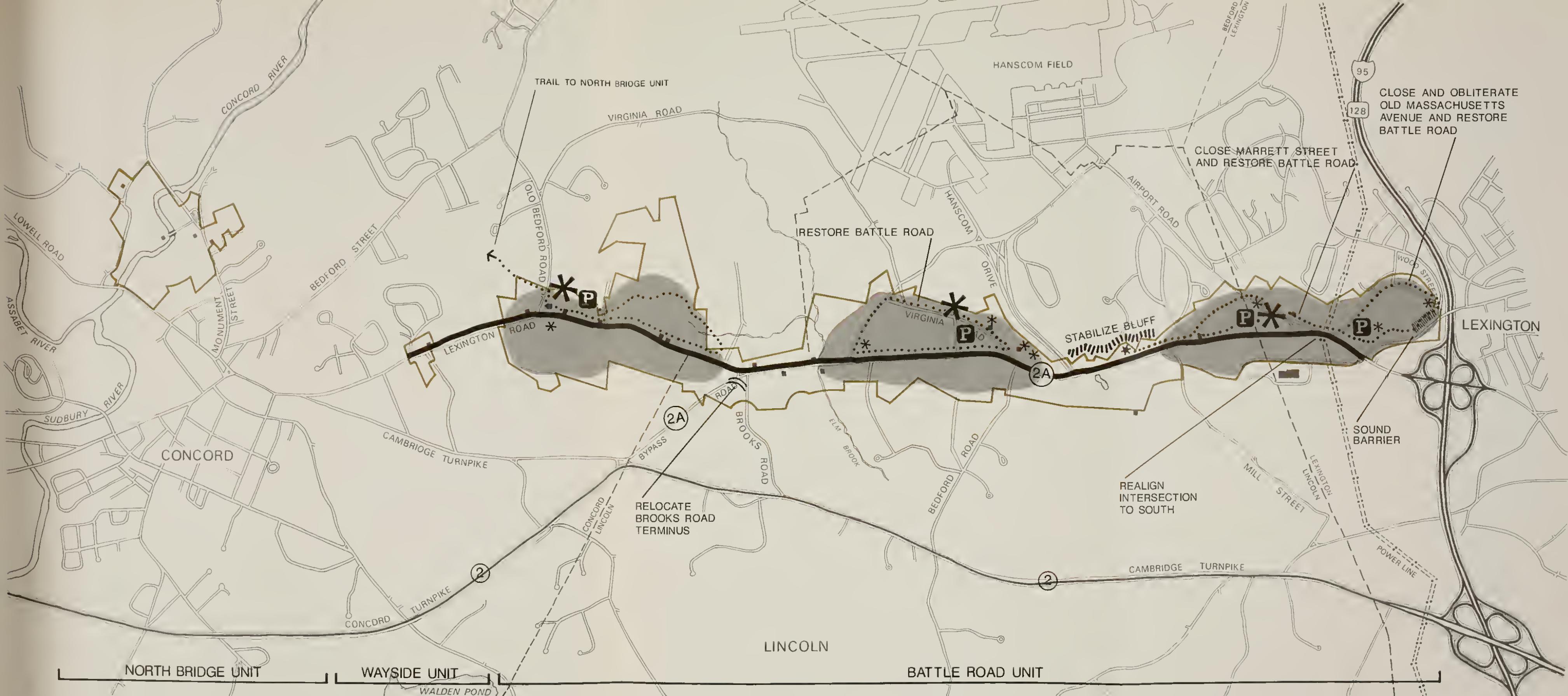


BATTLE ROAD UNIT
STRING OF PEARLS
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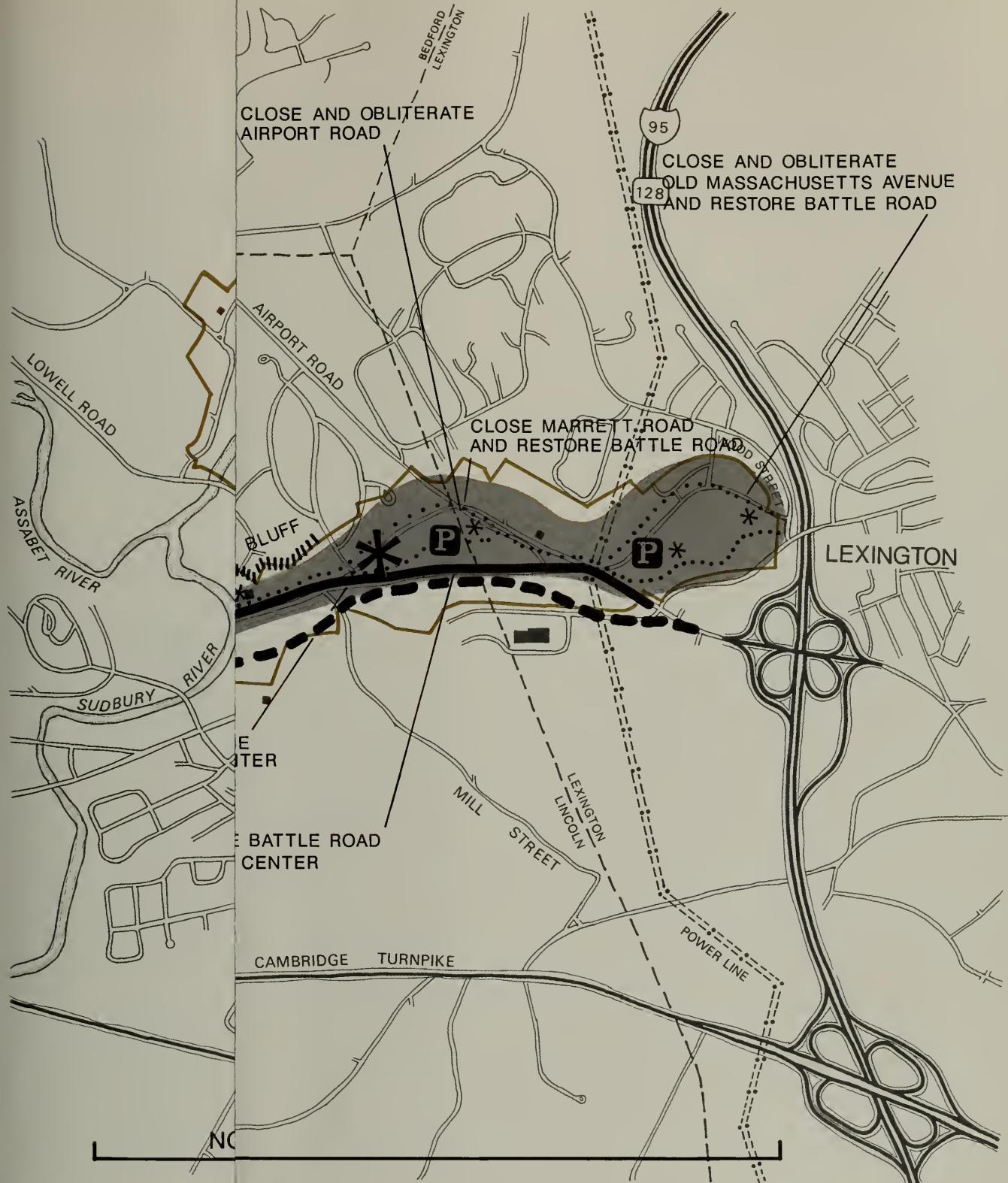
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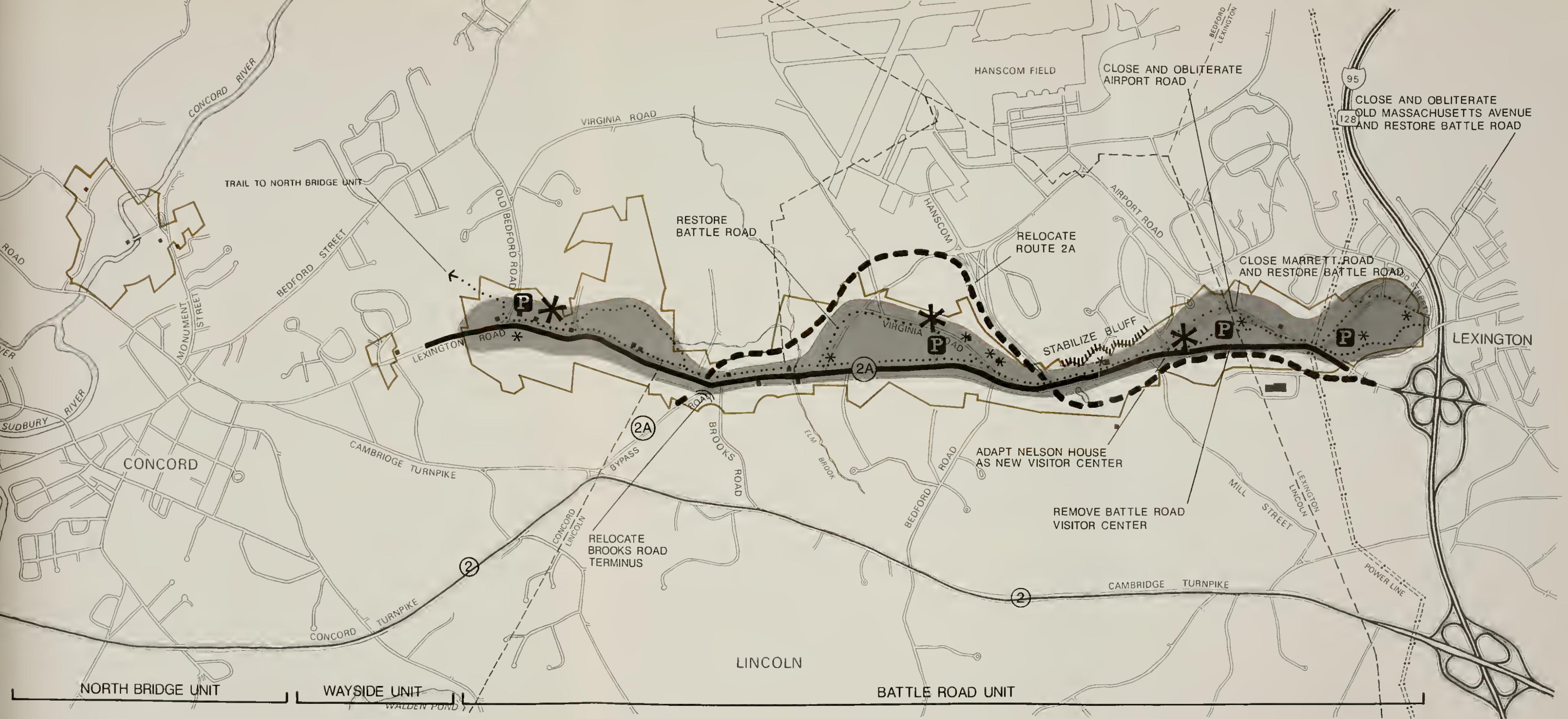


BATTLE ROAD UNIT
TOUR ROAD ALTERNATIVE

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— — — POSSIBLE BYPASS ROAD



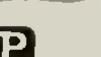
VISITOR ORIENTATION POINT



WAYSIDE EXHIBIT

— PARK

— — AREA OF HISTORIC SCENE REPLICATION



PARKING

..... TRAIL (HISTORIC BATTLE ROAD)

— — — TOUR ROAD

BATTLE ROAD UNIT
TOUR ROAD ALTERNATIVE

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ENVIRONMENTAL IMPACTS OF THE PROPOSAL AND ALTERNATIVES

This section provides an environmental assessment of the Battle Road unit alternatives, which are summarized in table 4. The level of detail presented in the assessment complies with the requirements for the preparation of a general management plan to guide park management over the next decade.

The assessment presented does not include a detailed evaluation of impacts associated with the relocation of Route 2A and Lexington Road in the Battle Road unit. Such detailed assessment is obviously required as part of further planning for this action. The proposal describes the preferred corridor that the National Park Service believes may be possible and would minimize impact on the park. The Park Service recognizes that further detailed investigation and analyses are required to implement phase 3 of the proposal.

Impacts on Cultural Resources

Proposal. The proposal will result in the enhancement of treatment of the cultural resources by removing the pavement and reestablishing the historic alignment of The Battle Road, replication of the landscape, and the preservation and exterior restoration of 18th- and 19th-century buildings. Reestablishing the historic scene will restore the context of the outbreak of the War of Independence, the features and the settlement of that time, and preserve the historic structures and cultural landscape of that era.

The principal historic resource of this unit is the approximately 4-mile section of The Battle Road between Meriam's Corner and Fiske Hill. No other resource in the park is as critical to understanding and appreciating the fighting and events of April 19, 1775; therefore, the visitor's understanding would be greatly enhanced by the removal of pavement and reestablishment of the historic alignment of The Battle Road.

The landscape replication is an essential feature of the proposal as these fields bordering The Battle Road were the location from which the militia and minutemen fired upon the British column. Today the fields are almost totally lost in second-growth timber and brush and the visitor gets the impression that the landscape provided significant cover and shelter for the Americans. In 1775 the road was bordered primarily by pasture and hayfields with a few tilled fields and orchards and almost no woods.

Along the road the 18th-century buildings will be preserved, but they will not be restored. Nevertheless, the structures provide important visual clues to the way of life in 1775. Because much of the research has not been completed on these buildings, it is difficult to determine in precise terms what the building treatment will be for any specific building. The preferred approach for treating the park's historic structures will be to remove or minimize architectural elements that are

particularly intrusive while preserving historic fabric to the maximum extent possible. Only the Jacob Whittemore House will be fully restored on the exterior to its 1775 appearance. The facades of others may be restored inasmuch as evidence allows, and maintenance of these resources will be stressed. Until the research is completed, greater specificity will be unattainable.

In deciding not to attempt the reconstruction of any missing historic structure, however, the plan promotes the preservation of the park's archeological resources. These remains will be stabilized or back-filled once the archeological research described earlier has been completed. The least preferred method of vegetative clearing for landscape replication, burning, would have an adverse effect on archeological resources, and will only occur in areas that do not possess these resources. Generally, archeological sites are only significant for the data they contain. While recovering that data will destroy the physical site, recovery of that data in a scientific and professional manner will ensure that the significance of the site is not lost.

Minimum Requirements Alternative. The least impact on historic buildings would occur in this alternative because the structures would be preserved in their present configuration. Major portions of The Battle Road, however, would continue as modern, paved highway, and no attempt would be made to reestablish its historical appearance, alignment, or context with the surrounding environment.

String of Pearls Alternative. This alternative does not attempt to restore the road or landscape except in several nodes within the park. Impacts would be similar to the proposal within these pearls; however, intrusions between them would obscure the historical character developed in the pearls.

Tour Road Alternative. This alternative has a number of similar effects as the proposal on cultural resources, but it differs in two areas. First, The Battle Road would not be restored to its historic configuration and appearance, and the scene would be obscured by the vehicular traffic. Second, although it is possible to achieve nearly the same degree of landscape restoration, the effect is far less meaningful when the road is not restored.

Impacts on Natural Resources

Proposal. The removal of trees and shrubs by cutting, burning, or other methods to replicate the 1775 historic scene would reduce habitat for forest species. Burning would temporarily degrade the air quality of the park and surrounding areas and could affect the flight operations at Hanscom Field. However, the long-term effect of landscape management to approximate the historical appearance of open areas and woodlands would increase habitat edges and plant and animal species composition and numbers in the park.

Clearing trees, shrubs, and other vegetation along stone fences to emphasize their historical appearance may reduce habitat for small mammals, birds, and other wildlife.

The long-term effects of developing vegetative screening along the park boundary as a backdrop to the historic scene would increase habitat for wildlife using these areas.

Controlled burning to maintain open fields, if used, will require the park's preparation of a fire management plan that will be consistent with local ordinances and other environmental regulations.

Stabilization of the bluff along the park/Hanscom Field boundary would check slope erosion, allow the area to revegetate, and improve the appearance of the bluff.

According to the U.S. Fish and Wildlife Service, there are no federally listed or candidate endangered or threatened wildlife or plant species or critical habitat in the park that would be affected by any of the proposed actions. The Massachusetts Natural Heritage Program was consulted, and it is not anticipated that any of the state-listed endangered, threatened, or special concern species would be adversely affected by the proposed actions.

Phase 1--Traffic management, including signals or other devices to slow traffic flow on Route 2A, and roadside mowing and clearing of shrubs and trees along The Battle Road would improve driving visibility and could reduce the possibility of wildlife/traffic conflicts.

The National Park Service would begin negotiations to relocate the power transmission line, or bury it along the existing corridor alignment throughout the park. The corridor would be restored to replicate the historic scene.

The road pavement in the park boundary that intersects Nelson Road would be removed, and the site (0.2 acre) returned to vegetation.

The development of wayside exhibits at Meriam's Corner, at Hardy's Hill, and at the intersection of Bedford Road and Route 2A would remove 0.2 acre of natural area, including existing open fields and woodlands.

The development of trails would remove 1.6 acres of natural area, including existing open fields and woodlands.

Phase 2--Roadside mowing and clearing of shrubs and trees along The Battle Road would improve driving visibility and could reduce the possibility of wildlife/traffic conflicts.

The removal of pavement on The Battle Road, where it diverges from Route 2A/Lexington Road, including Marrett Road and Old Massachusetts Avenue, would change water drainage patterns. Measures such as sediment traps, silt fences, and revegetation of exposed slopes would be undertaken to prevent the washing of sediments into watercourses.

The realignment of Route 2A and Marrett Road away from the Bluff would remove 1.6 acres of natural area, including wetlands, open fields, and woodlands.

Airport Road and portions of Old Massachusetts Avenue would be obliterated, and the 3.3-acre area returned to natural conditions.

The removal of the Battle Road Visitor Center would allow 0.4 acre to be included in the historic scene.

The development of interpretive trails would remove 0.7 acre of natural areas including open fields and woodlands.

Phase 3--The proposed relocation of Route 2A outside the park would affect town conservation lands and wetlands outside the park boundary. The impacts would be mitigated by the use of new construction techniques, such as cantilevered progressive segmental erection of bridges, the use of filter and construction fabrics to prevent erosion, and bioengineered plantings, to reduce the impacts in environmentally sensitive areas.

A total of 8.6 acres of the nonhistoric portion of The Battle Road, including the realignment of Route 2A, would be returned to natural conditions.

The removal of the existing roads in the park that intersect with Route 2A would return 4.0 acres to natural conditions.

The development of parking areas or turnarounds at the ends of roads that currently intersect The Battle Road would remove 0.9 acre of natural area, including open fields and woodlands.

The removal of pavement from The Battle Road would change water drainage patterns. Measures would be taken to prevent the washing of sediments into watercourses.

The existing Paul Revere Capture Wayside pullout and the wayside pullouts that were developed in phase 1 would be obliterated; this would return 0.3 acre to the historic scene.

The removal of the parking area at the existing Battle Road Visitor Center would return 1.9 acres to the historic scene.

The power transmission line at the Bluff near Fiske Hill would be relocated outside the park or buried in the existing corridor throughout the park, allowing 6.6 acres to be returned to natural conditions.

Minimum Requirements Alternative. Clearing trees, shrubs, and other vegetation along stone fences to emphasize their historical appearance would reduce habitat for small mammals, birds, and other wildlife. The long-term effects of replicating the historical appearance of the fence rows would increase the number of small animals as shrubs, weeds, and grass grow along the fence rows.

The long-term effects of developing vegetative screening along the park boundary as a backdrop to the historic scene would increase numbers of wildlife using these vegetated areas.

Stabilization of the bluff along the park/Hanscom Field boundary would check slope erosion, allow the area to revegetate, and improve the appearance of the bluff.

The U.S. Fish and Wildlife Service has indicated that there are no federally listed or candidate endangered or threatened wildlife or plant species or critical habitat in the park that would be affected by the development actions. The Massachusetts Natural Heritage Program was consulted, and it is not anticipated that any of the state-listed endangered, threatened, or special concern species would be adversely affected by the development actions.

The removal of the Marrett Road pavement to restore its historical appearance would change water drainage patterns. Measures would be taken to prevent the washing of sediments into watercourses.

The access road to the Lincoln trash transfer station would be closed, and 0.7 acre would be returned to natural conditions.

String of Pearls Alternative. The removal of trees and shrubs by cutting, burning, or other methods to replicate the 1775 historic scene would reduce habitat for forest species. Burning would temporarily degrade the air quality of the park and surrounding areas and could possibly affect the flight operations at Hanscom Field. However, the long-term effect of landscape management to approximate the historical appearance of open areas and woodlands would increase habitat edges and plant and animal species composition and numbers in the park.

Clearing trees, shrubs, and other vegetation along stone fences to emphasize their historical appearance may reduce habitat for small mammals, birds, and other wildlife.

The long-term effects of developing vegetative screening along the park boundary as a backdrop to the historic scene would increase habitat for wildlife using these vegetated areas.

Stabilization of the bluff along the park/Hanscom Field boundary would check slope erosion, allow the area to revegetate, and improve the appearance of the bluff.

According to the U.S. Fish and Wildlife Service, there are no federally listed or candidate endangered or threatened wildlife or plant species or critical habitat in the park that would be affected by any of the development actions. The Massachusetts Natural Heritage Program was consulted and it is not anticipated that any of the state-listed endangered, threatened, or special concern species would be affected by the development actions.

Roadside mowing and clearing of shrubs and trees along Route 2A would improve driving visibility and could reduce the possibility of wildlife/traffic accidents.

The development of interpretive trails in the historic restoration areas would remove 3.4 acres of natural area, including open fields, brush, and woodlands.

The road pavement in the park boundary that intersects Nelson Road would be removed, and the site (0.02 acre) would be returned to natural conditions.

The access road to the Lincoln trash transfer station would be closed, and 0.7 acre would be returned to natural conditions.

The development of parking areas at Meriam's Corner and along Bedford Road would remove 0.2 acre of natural area, including open fields and woodlands.

The removal of pavement on the Battle Road, where it diverges from Route 2A/Lexington Road, including Marrett Road and Old Massachusetts Avenue, would change water drainage patterns. Measures would be taken to prevent the washing of sediments into watercourses.

The realignment of Route 2A and Marrett Road away from the Bluff would remove 1.6 acres of natural area, including brush and woodlands.

The obliteration of Airport Road and portions of Old Massachusetts Avenue would return 3.3 acres to natural conditions.

Tour Road Alternative. The removal of trees and shrubs by cutting, burning, or other methods to replicate the 1775 historic scene would reduce habitat for forest species. Burning would temporarily degrade the air quality of the park and surrounding areas. However, the long-term effect of landscape management to approximate the historical appearance of open areas and woodlands would increase habitat edges and plant and animal species composition and numbers in the park.

Clearing trees, shrubs, and other vegetation along stone fences to emphasize their historical appearance may reduce habitat for small mammals, birds, and other wildlife.

The long-term effects of developing vegetative screening along the park boundary as a backdrop to the historic scene would increase habitat for wildlife using these vegetated areas.

Stabilization of the bluff along the park/Hanscom Field boundary would check slope erosion, allow the area to revegetate, and improve the appearance of the bluff.

The U.S. Fish and Wildlife Service has indicated that there are no federally listed or candidate endangered or threatened wildlife or plant

species or critical habitat in the park that would be affected by any of the development actions. The Massachusetts Natural Heritage Program was consulted, and it is not anticipated that any of the state-listed endangered, threatened, or special concern species would be adversely affected by the development actions.

The road pavement in the park boundary that intersects Nelson Road would be removed, and the site (0.02 acre) would be returned to natural conditions.

The access road to the Lincoln trash transfer station would be closed, and 0.7 acre would be returned to natural conditions.

The development of wayside exhibits at Meriam's Corner, at Hardy's Hill, and at the intersection of Bedford Road and Route 2A would remove 0.2 acre of natural area, including existing open fields and woodlands.

Roadside mowing and clearing of shrubs and trees along The Battle Road would improve driving visibility and could reduce the possibility of wildlife/traffic conflicts.

The realignment of Route 2A and Marrett Road away from the Bluff would remove 1.6 acres of natural area, including wetlands.

The obliteration of Airport Road and portions of Old Massachusetts Avenue would return 3.3 acres to natural conditions.

The removal of the Battle Road Visitor Center and grounds would return approximately 3½ acres to the historic scene.

The development of interpretive trails would remove 5.0 acres of natural area, including open fields and woodlands.

The proposed relocation of Route 2A outside the park would affect town conservation lands and wetlands outside the park boundary. The impacts would be mitigated by the use of new construction techniques to reduce the impacts in environmentally sensitive areas.

The removal of pavement on The Battle Road would change water drainage patterns. Measures would be taken to prevent the washing of sediments into watercourses.

Impacts on Visitors

Proposal. Implementation of the proposal would afford visitors the most historically comprehensible experience of any of the alternatives. The entire battle route within the park would be available to visitors to walk in a historical context, and the absence of traffic and other distractions would maximize continuity and comprehension of the battle scene. Visitor access to park facilities would be via the relocated 2A, which provides a transition to the 18th-century scene along The Battle Road. However,

some interaction with local traffic would still occur, detracting from the sense of place provided by the proposal within the park. Elderly and handicapped visitors would experience inconvenience because vehicle access would be somewhat removed from the sites. However, all walks would be designed to provide the maximum feasible access to all visitors, and the slower pace would enhance the mainstream feeling for those with physical limitations.

Minimum Requirements Alternative. Retention of Route 2A on its present alignment in this alternative would result in continued visitor confusion and traffic congestion. Despite improvements such as walk lights, visitors would still find stopping, turning, and crossing roads to be difficult and potentially unsafe. Traffic and its associated noise, odor, and visual distractions would continue to preclude a historical atmosphere, and visitors would continue to have difficulty distinguishing the location and extent of unit resources. New wayside exhibits and visitor center improvements would slightly improve visitor comprehension of the unit.

String of Pearls Alternative. Development and interpretation of primary areas in this alternative would increase visitor comprehension and identification of some park resources over the minimum requirements alternative. However, travel between pearls would continue to be confusing and distracting; turning into parking areas and access roads could be difficult and unsafe. Traffic volumes and therefore pressure to improve Route 2A would continue to increase. Elderly and handicapped visitors would experience inconvenience because vehicle access would be somewhat removed from the sites within the pearls; however, all walks would be designed to provide the maximum feasible access to all visitors. More opportunities for hiking and bicycling would be available than in the minimum requirements alternative because of the continuity of lands within the pearls.

Tour Road Alternative. This alternative would provide a cohesive experience similar to the proposal, but the presence of modern pavement and vehicles would diminish the historical atmosphere. Nearly all unit resources could be reached by handicapped and elderly visitors because of vehicle access the full length of the unit. Maximum hiking and bicycling opportunities would be available as in the proposal. Traffic conflicts would be minimized by the 2A relocation, and visitors would not be confused by the need to use other area roads to access resources within the unit; however, conflicts may arise with use of the tour road by nonpark visitors.

Impacts on Park Administration and Operations

Proposal. Under the proposal, maintenance of the restored Battle Road surface and open landscapes would require a significant new commitment of staff time and operational funds. Limited vehicle access to some sections of The Battle Road would probably further increase the cost and complexity of such maintenance. Ranger patrols by horseback or foot would require additional staff time over present vehicle patrols. Potential

problems of emergency access would be mitigated by the special plan called for in the proposal. Increased visitation and services in the unit would require more seasonal interpretive staff than at present.

Minimum Requirements Alternative. Present administration or operations would not be significantly affected under this alternative.

String of Pearls Alternative. In the string of pearls alternative, reduced vehicle access and maintenance of restored Battle Road sections and landscapes within the pearls would increase maintenance and law enforcement costs somewhat, but to a much lesser degree than in the proposal. Increased development and visitation to the unit could require additional seasonal interpretive staff.

Tour Road Alternative. As in the proposal, the tour road alternative would require the park to maintain The Battle Road. Maintenance of open landscapes would be similar to the proposal, but would be facilitated by vehicle access through the unit. Ranger patrol and emergency services would be facilitated by the paved tour road, although costs would be increased due to the need to control traffic. The need for increased seasonal interpretive staff would be the same as in the proposal.

Impacts on Local and Regional Transportation

Proposal. During phase 1 of the proposal, traffic conditions would be similar to conditions in the minimum requirements and string of pearls alternatives. Occasional closing of Airport Road and Old Massachusetts Avenue during selected times could increase traffic on New Massachusetts Avenue and Wood Street.

In phase 2, traffic conditions would be similar to phase 1 conditions but would move more smoothly on Route 2A in the vicinity of Fiske Hill and Nelson Road due to the closures of Airport Road and Old Massachusetts Avenue. Traffic volumes could increase on New Massachusetts Avenue and Wood Street.

Traffic conditions would be improved in phase 3 on a relocated, redesigned 2A alignment from those conditions using existing Route 2A. Conditions would be improved from a roadway operating at unstable traffic flow to relatively free-flowing traffic.

Some of the roads that now intersect Route 2A would not have access to the relocated road. Those that would not would be realigned to access another through-road or terminated in a cul-de-sac.

The closure of Lexington Road (Battle Road) to through-traffic east of Meriam's Corner would require through-traffic to use alternative roads to the relocated Route 2A. This might produce some minor inconvenience to east/west through-traffic movements in the Lexington Road/Route 2A corridor but is consistent with the Town of Concord's "Long Range Plan." At the east end of the Battle Road unit, the relocation would accommodate

traffic flow between Hanscom Drive and Route 128. Relocation of the intersection of Route 2A and New Massachusetts Avenue would allow adequate sight distance and safe movement of vehicles between New Massachusetts Avenue and Route 2A.

The closure of Airport Road and Old Massachusetts Avenue would tend to increase traffic volume on New Massachusetts Avenue and Wood Street.

Minimum Requirements Alternative. Under this alternative, traffic delays would increase because of traffic volume increases and the inability of 2A to accommodate additional commuter traffic, and conflicts between through and turning movements at major intersections would also continue to increase.

The installation of traffic control devices and other minor improvements at major intersections could reduce congestion somewhat, but overall traffic conditions would continue to deteriorate. Because the federal government does not own Route 2A and therefore the National Park Service would have no control over the road, changes to the road and its right-of-way (e.g., additional or wider lanes, shoulders, straightening) could occur regardless of their effects on park visitors or resources.

Occasional closing of Airport Road and Old Massachusetts Avenue would relieve traffic congestion in the park in the Nelson Road area but could produce greater traffic volumes on New Massachusetts Avenue and Wood Street east of Airport Road.

String of Pearls Alternative. Under this alternative traffic conditions on Route 2A would be very similar to those in the minimum requirements alternative except that Airport Road would remain open. The development of parking areas at Meriam's Corner and on Bedford Lane (near Ephraim Hartwell Tavern and William Smith House) would enhance visitor/pedestrian safety within these small developed areas.

Tour Road Alternative. Under this alternative traffic congestion would be greatly reduced on The Battle Road with the Route 2A relocation. This would allow visitors to leisurely drive The Battle Road. All the visitor movements in vehicles such as maneuvering for waysides, pullouts, and turning movements could be undertaken more safely.

Through-traffic movements on relocated 2A could be undertaken with much less delay and congestion; however, traffic conflicts may arise with use of the tour road by nonpark visitors. Access from The Battle Road to local streets could be continued providing easy access for residents in the area. The closure of Airport Road and Old Massachusetts Avenue would increase traffic on New Massachusetts Avenue and Wood Street.

Table 4: Comparison of Advantages and Disadvantages: Proposal and Alternatives - Battle Road Unit

Proposal	Minimum Requirements Alternative	String of Pearls Alternative	Tour Road Alternative
Impacts on Cultural Resources	Reestablishment of historic Battle Road; loss of post-1775 historic fabric on certain historic buildings; similar loss of archeological sites excavated	Historic Battle Road to remain hidden under modern pavement and alignment; preservation of historic buildings in their present configuration; loss of archeological sites excavated	Historic buildings same as proposal; The Battle Road same as string of pearls; loss of archeological sites excavated
Impacts on Natural Resources	Long-term increase of animal species composition and numbers due to landscape management; short-term impacts of construction and burning; net loss of approximately 11 acres of vegetation; no effect on wetlands	Minimal increase of animal species composition and numbers; little impact on vegetation; no effect on endangered or threatened species; no effect on floodplains of Elm Brook; no effect on wetlands	Effects on animals similar to the proposal; short-term impacts of construction less than the proposal; net gain of approximately 4 acres of vegetation; no effect on endangered or threatened species; no effect on floodplains of Elm Brook; effect on wetlands by realignment of Battle Road away from the Bluff near intersection of Old Massachusetts Avenue and Route 2A
Impacts on Visitors	Very limited historical atmosphere and little site continuity; limited hiking/biking opportunities; visitor confusion and traffic distractions; unsafe traffic conditions for site access; most areas handicap-accessible	Very limited historical atmosphere only within pearls; some site continuity; some hiking/biking opportunities; travel confusing between pearls; unsafe traffic conditions for some site access; some areas not handicap-accessible	Continuous historical atmosphere, but affected by modern vehicle travel; maximum hiking/biking opportunities; least confusing for visitor travel; vehicular access to most sites; most areas handicap-accessible
Impacts on Park Administration and Operations	No significant effects on present administration and operations	No significant effects on present administration and operations	Similar commitment of staff and funding for tour road maintenance as in proposal; some additional commitment of law enforcement staff; some additional commitment of interpretive staff
Impacts on Local and Regional Transportation	No traffic on The Battle Road; reduced traffic delays on relocated 2A; minor inconvenience to east/west traffic due to closure of Lexington Road	Increase in traffic delays and conflicts between through-traffic and turning traffic	Greatly reduced traffic on The Battle Road; reduced delays on relocated 2A; minor inconvenience to east/west traffic due to closure of Lexington Road

ESTIMATED DEVELOPMENT COSTS AND PHASING SCHEDULE - BATTLE ROAD UNIT
Proposal - Phase 1

<u>Development Item/Phase (including size, quantity, etc.)</u>	<u>Gross Construction Costs</u>	<u>Advanced and Project Planning Costs</u>	<u>Total Project Costs</u>
Landscape Treatment			
Obliterate Marrett Street and replicate Battle Road historic surface	\$ 234,490	\$ 44,750	\$ 279,240
Remove pavement at swing set	19,650	3,750	23,400
Restore historic Battle Road traces	14,410	2,750	17,160
Revegetate trash station	9,170	1,750	10,920
Remove modern structures			(park operational)
Subtotal			\$ 330,720
Development			
Improve restrooms at McHugh Barn	\$ 111,350	\$ 21,250	\$ 132,600
Construct wayside pullouts	41,920	8,000	49,920
Install orientational and directional signs	2,620	500	3,120
Develop interpretive trail at Fiske Hill	393,000	75,000	468,000
Stabilize Job Brooks as a "solid ghost"	28,820	5,500	34,320
Install waysides			(currently funded)
Install exhibits at Battle Road Visitor Center			(HFC funding)
Modify Brooks Road terminus	124,450	23,750	148,200
Develop Bedford Lane parking	10,480	2,000	12,480
Develop Bloody Angles parking	10,480	2,000	12,480
Stabilize bluff at park boundary	8,515	1,625	10,140
Install walk lights			(state funding)
* Subtotal			\$ 871,260
Research/Studies			
Synthesize existing studies to aid historic structure restoration	\$ 19,650	\$ 3,750	\$ 23,400
Excavate/stabilize archeological sites	1,310,000	250,000	1,560,000
Complete archeological survey			(currently funded)
Prepare historic structure reports	982,500	187,500	1,170,000
Subtotal			\$2,753,400
Total			\$3,955,380

Estimated Additional Operations and Maintenance Costs (in 1988 dollars)

Staffing Costs	3.0 work years
	\$ 62,000

ESTIMATED DEVELOPMENT COSTS AND PHASING SCHEDULE - BATTLE ROAD UNIT
 Proposal - Phase 2

<u>Development Item/Phase (including size, quantity, etc.)</u>	<u>Gross Construction Costs</u>	<u>Advanced and Project Planning Costs</u>	<u>Total Project Costs</u>
Landscape Treatment			
Reopen forested areas	\$ 268,550	\$ 51,250	\$ 319,800
Construct historic style fences and stone walls	2,325,250	443,750	2,769,000
Replicate Battle Road historic surface	869,840	166,000	1,035,840
Increase screening	65,500	12,500	78,000
Replicate historic orchards/gardens	262,000	50,000	312,000
Obliterate Airport Road and Old Massachusetts Avenue and revegetate	103,490	19,750	123,240
Remove Battle Road Visitor Center and revegetate	170,300	32,500	202,800
Remove modern structures			(park operational)
Subtotal			\$4,840,680
Development			
Construct hike/bike trail from Meriam's Corner to North Bridge unit	\$ 327,500	\$ 62,500	\$ 390,000
Formalize Bedford Lane parking area	19,650	3,750	23,400
Restore historic facades	1,061,100	202,500	1,263,600
Construct hike/bike trail along battle route	458,500	87,500	546,000
Develop parking at Meriam's Corner	49,780	9,500	59,280
Realign 2A-Marrett Road intersection south of the Bluff	1,310,000	250,000	1,560,000
Adapt John Nelson House and Barn for visitor contact	2,339,988	446,563	2,786,550
Adapt old schoolhouse for visitor contact	838,400	160,000	998,400
Restore Whittemore House	632,730	120,750	753,480
Develop interpretive trail at Meriam's Corner	124,450	23,750	148,200
Construct highway sound buffers			(state funding)
Subtotal			\$8,528,910
Research/Studies			
Excavate/stabilize archeological sites	\$ 982,500	\$ 187,500	\$1,170,000
Subtotal			\$1,170,000
Total			\$14,539,590

Estimated Additional Operations and Maintenance Costs (in 1988 dollars)

Staffing* 11.5 work years
 Costs* \$ 275,000

*Includes costs and staffing of phase 1

ESTIMATED DEVELOPMENT COSTS AND PHASING SCHEDULE - BATTLE ROAD UNIT
Proposal - Phase 3

<u>Development Item/Phase (including size, quantity, etc.)</u>	<u>Gross Construction Costs</u>	<u>Advanced and Project Planning Costs</u>	<u>Total Project Costs</u>
Landscape Treatment			
Reopen forested areas	\$ 124,450	\$ 23,750	\$ 148,200
Construct historic style fences and stone walls	910,450	173,750	1,084,200
Replicate remaining portion of Battle Road historic surface	1,310,000	250,000	1,560,000
Increase screening	98,250	18,750	117,000
Replicate historic orchards/gardens	131,000	25,000	156,000
Obliterate nonhistoric portions of Route 2A and revegetate	276,410	52,750	329,160
Obliterate Battle Road Visitor Center parking area	23,580	4,500	28,080
Remove any remaining modern structures			(park operations)
Subtotal			\$3,422,640
Development			
Construct visitor parking/orientation areas (3)	\$ 196,500	\$ 37,500	\$ 234,000
Construct comfort stations (with utilities)	524,000	100,000	624,000
Remove Bedford Lane parking	19,650	3,750	23,400
Construct connector road from Meriam's Corner to the new bypass	393,000	75,000	468,000
Subtotal			\$1,349,400
Bypass Road Construction	\$16,840,218	\$3,213,782	\$20,054,000
Total			\$24,826,040

Estimated Additional Operations and Maintenance Costs (1988 dollars)

Staffing*	20.5 work years
Costs*	\$ 525,000

*Includes costs and staffing of phases 1 and 2

ESTIMATED DEVELOPMENT COSTS AND PHASING SCHEDULE - BATTLE ROAD UNIT
 Minimum Requirements Alternative

<u>Development Item/Phase (including size, quantity, etc.)</u>	<u>Gross Construction Costs</u>	<u>Advanced and Project Planning Costs</u>	<u>Total Project Costs</u>
Landscape Treatment			
Replicate Battle Road historic surface - Marrett Street	\$ 234,490	\$ 44,750	\$ 279,240
Remove modern structures, restore, and revegetate			(park operational)
Subtotal			\$ 279,240
Development			
Install orientational and directional signs	\$ 3,930	\$ 750	\$ 4,680
Construct wayside pullouts (wayside exhibits already funded)	26,200	5,000	31,200
Stabilize bluff at park boundary	8,515	1,625	10,140
Install walk lights			(state funding)
Improve exhibits at Battle Road Visitor Center			(currently funded)
Subtotal			\$ 46,020
Research/Studies			
Complete archeological survey			(regional office)
Subtotal			
Total			\$ 325,260

Estimated Additional Operations and Maintenance Costs (in 1988 dollars)

Staffing Costs	3.0 work years \$ 62,000
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ESTIMATED DEVELOPMENT COSTS AND PHASING SCHEDULE - BATTLE ROAD UNIT
String of Pearls Alternative

<u>Development Item/Phase (including size, quantity, etc.)</u>	<u>Gross Construction Costs</u>	<u>Advanced and Project Planning Costs</u>	<u>Total Project Costs</u>
Landscape Treatment			
Reopen forested areas	\$ 268,550	\$ 51,250	\$ 319,800
Construct historic style fences and walls	2,325,250	443,750	2,769,000
Replicate Battle Road historic surface	869,840	166,000	1,035,840
Increase screening	32,750	6,250	39,000
Replicate historic orchards/gardens	262,000	50,000	312,000
Obliterate Airport Road and Old Massachusetts Avenue	103,490	19,750	123,240
Remove modern structures, restore, and revegetate			(park operational)
Subtotal			\$4,598,880
Development			
Construct hike/bike trail from Meriam's Corner to North Bridge	\$ 327,500	\$ 62,500	\$ 390,000
Develop interpretive trails at Meriam's Corner and Fiske Hill	393,000	75,000	468,000
Formalize parking area at Bedford Lane	19,650	3,750	23,400
Improve restrooms at McHugh Barn	111,350	21,250	132,600
Construct wayside pullouts	31,440	6,000	37,440
Install orientational and directional signs	5,240	1,000	6,240
Restore 3 historic facades	212,220	40,500	252,720
Develop hike/bike trail to connect pearls	458,500	87,500	546,000
Construct parking at Meriam's Corner	78,600	15,000	93,600
Realign 2A-Marrett Road intersection away from Bluff	1,310,000	250,000	1,560,000
Remove modern structures			(park operational)
Install walk lights			(state funding)
Stabilize bluff at park boundary	8,515	1,625	10,140
Modify Brooks Road terminus	124,450	23,750	148,200
Install exhibits at Battle Road Visitor Center			(HFC funding)
Install waysides			(currently funded)
Subtotal			\$3,668,340
Research/Studies			
Synthesize existing studies to aid historic structure restoration	\$ 19,650	\$ 3,750	\$ 23,400
Prepare historic structure reports	327,500	62,500	390,000
Subtotal			\$ 413,400
Total			\$8,680,620

Estimated Additional Operations and Maintenance Costs (in 1988 dollars)

Staffing Costs	11.5 work years
	\$ 275,000

ESTIMATED DEVELOPMENT COSTS AND PHASING SCHEDULE - BATTLE ROAD UNIT
Tour Road Alternative

<u>Development Item/Phase (including size, quantity, etc.)</u>	<u>Gross Construction Costs</u>	<u>Advanced and Project Planning Costs</u>	<u>Total Project Costs</u>
Landscape Treatment			
Reopen forested areas	\$ 393,000	\$ 75,000	\$ 468,000
Construct historic style fences and stone walls	3,235,700	617,500	3,853,200
Replicate Battle Road historic surface	869,840	166,000	1,035,840
Increase screening	131,000	25,000	156,000
Replicate historic orchards/gardens	393,000	75,000	468,000
Obliterate Airport Road and Old Massachusetts Avenue and revegetate	103,490	19,750	123,240
Remove modern structures and revegetate			(park operational)
Subtotal			\$6,104,280
Development			
Construct hike/bike trail from Meriam's Corner to North Bridge	\$ 327,500	\$ 62,500	\$ 390,000
Develop interpretive trails at Meriam's Corner and Fiske Hill	393,000	75,000	468,000
Improve restrooms at McHugh Barn	111,350	21,250	132,600
Construct wayside pullouts	31,440	6,000	37,440
Install orientational and directional signs	5,240	1,000	6,240
Restore historic facades	1,061,100	202,500	1,263,600
Construct parking at Meriam's Corner	78,600	15,000	93,600
Stabilize Job Brooks House as a "solid ghost"	28,820	5,500	34,320
Adapt old schoolhouse for visitor contact	838,400	160,000	998,400
Stabilize bluff at park boundary	8,515	1,625	10,140
Remove Battle Road Visitor Center	52,400	10,000	62,400
Adapt John Nelson House and Barn for visitor contact	2,339,988	446,563	2,786,550
Subtotal			\$6,283,290
Research/Studies			
Synthesize existing studies to aid historic structure restoration	\$ 19,650	\$ 3,750	\$ 23,400
Prepare historic structure reports	1,002,150	191,250	1,193,400
Subtotal			\$1,216,800
Construct Bypass Road	\$16,840,218	\$3,213,782	\$20,054,000
Total			\$33,658,370

Estimated Additional Operations and Maintenance Costs (in 1988 dollars)

Staffing Costs	20.5 work years
	\$ 525,000

DESCRIPTION AND ANALYSIS OF ROUTE 2A RELOCATION - CORRIDOR OPTIONS

Introduction

The National Park Service recognizes that major state transportation projects of high priority include the construction of a third harbor tunnel, widening of Routes 128 and 3 and the depression of Central Artery in Boston.

It also recognizes as outlined in the Town of Concord's "Long Range Plan" that ". . . after 21 years of study and controversy, the upgrading of Route 2 seems more remote than it was in 1966," and also that ". . . 17 years of earnest discussion by the HATS committee, Concord, Lincoln, Bedford and Lexington have still not agreed upon a mutually acceptable highway plan to alleviate traffic congestion in the Hanscom area." Likewise, since the inception of the park in 1959 the National Park Service has participated in these and other traffic studies that affect the park. Over this period traffic congestion has increased, and it appears to pose an increasing threat to the long-term preservation and enjoyment of the park by visitors.

The National Park Service recognizes that for such a plan to succeed, it must satisfactorily respond to the diverse transportation needs of this area. For example, access requirements for residents, through commuters, park visitors, Massport, Hanscom Air Force Base, Minuteman Regional Vocational-Technical School, Lincoln's trash transfer station, and Towns of Lexington, Lincoln, and Concord with respect to their responsibilities for supplying essential services and meeting mutual aid commitments will need to be assessed in context of the NPS proposal.

The actual alignment and its overall feasibility will require significant, careful, and detailed study by the National Park Service. It is not the intent of this GMP to provide a detailed evaluation of the proposal and alternatives to it, but rather to present a preferred program that meets long-term park objectives. The NPS proposal may, therefore, provide a catalyst that can help solve some of the area's traffic problems as well as improve and preserve the park for future generations.

The National Park Service recognizes that the ultimate success of the proposed action is directly dependent on the cooperation of the three communities in which the park is located, neighboring towns, Massport, United States Air Force, institutions, the state, and other interested parties. This cooperation is required to identify mutually agreeable solutions to a variety of issues related to Route 2A's relocation.

The relocated road would remove traffic from the unit and would lead from the existing Route 2A/Route 128 intersection to the Concord Turnpike Cutoff (Bypass Road). The historic Battle Road would overpass the new road in two places within the park unit (i.e., the new road would "tunnel" under the park). Regardless of the exact corridor, the overpass would be at least 300 feet wide and planted with native

vegetation so that visitors walking on The Battle Road would be affected by modern traffic as little as possible.

The road would be two lanes and designed for moderate speeds. It would provide limited access and other upgraded safety features. Curves would be smooth, and design techniques, such as segmental cantilever construction and vegetative screening, would be used to minimize impacts on wetlands and visual quality, respectively. The existing Route 2A would not be closed until the construction of the realignment was completed.

Three alternative corridors were considered for new road construction at each end of the park unit. The existing Hanscom Drive and a new road segment to be constructed in conjunction with the North Lincoln development would constitute the middle portion of the new Route 2A. The National Park Service has selected corridor option A at the east end of the unit and corridor option F at the west end of the unit and the northern Meriam's Corner option as the most feasible and desirable relocation routes.

Option A was chosen as the preferred east end alignment because it presented fewer difficulties for implementation. Although this option provides the least enhancement of the visitor experience and protection of historic resources, it may be the most economical and practical alternative. The option has the least impacts on neighboring landowners; however, emphasis will be placed on cooperation with Minuteman Regional Vocational-Technical School, Boston Edison, Massport, Hanscom Air Force Base, the Towns of Lexington and Lincoln, the City of Cambridge, the state, and others.

Option F is the preferred road realignment at the west end of the unit. This was chosen because fewer wetlands are affected, and realignment can be achieved with less disturbance on adjoining conservation and private lands. This is also the least cost option according to preliminary estimates of project costs. The roadway would provide for access from residences which will have frontage on the alignment and require continued access.

The new park connector road proposed for Meriam's Corner linking Old Bedford Road and the relocated Route 2A was also assessed. This road is to provide for park and minimal local traffic due to the closure of the Lexington Road portion of the Battle Road from Meriam's Corner to the realigned Route 2A at Bypass Road. The northern option was preferred for this relocation as it would have less impacts on wetlands than an alignment south of the Battle Road. It was determined that to close and not replace this road would not be acceptable as an alternative route is needed to provide efficient access to the new Route 2A for visitors and emergency access. The road would be designed for a leisurely driving experience and through-traffic would not be encouraged.

The section that follows describes and analyzes the possible effects of the alternative corridor options for relocation of Route 2A as proposed for the

Battle Road unit. The National Park Service has performed an initial environmental assessment of the road alignment options to assess the alternatives relative to each other, and to test the viability and acceptability of the concepts. At this time the concepts show the road as being located within a 300-foot-wide corridor, although the exact location has not been established. The estimated acreages of areas affected were generated using the corridor width and the length of the segments where impacts on underlying resources are expected.

Due to the uncertainty of the time frame for implementation and actual routings, land acquisition costs were not generated for the alternative corridor options. In general, the cost of land acquisition will be significant for road relocation. Land costs in the region have escalated, and 1988 property values have been estimated at \$200,000 per acre for developable land.

Archeological testing and analysis would be undertaken prior to road construction. If resources were discovered, disturbance would be avoided if possible, or the disturbance would be mitigated by excavation and recording of information. A traffic analysis would also be undertaken in the advance planning stages of phase 3. This study would update current volume and safety statistics and results used in the planning and design of the new Route 2A.

East End Corridor Option A (Proposal)

Description. This corridor would be a 1-1/3 mile, two-lane road segment. It would lead west from the 2A/Route 128 intersection, curve north of the Minuteman Regional Vocational-Technical School (bridging the wetland), intersect Mill Street, curve south around Folly Pond, and underpass the historic Battle Road to flow into Hanscom Drive. The corridor require redesign of some existing road intersections. The road would have limited access to improve safety. About 85-90 percent of the corridor would cross federal land, 5-10 percent nonfederal public land, and the remainder private land.

Impacts on Natural Resources. The proposed road corridor would disturb approximately 4 acres of wetlands. Bridging these wetlands by segmental cantilever construction would reduce the impacts on 1 to 2 acres by retaining natural drainage patterns, minimizing vegetation disturbance, and eliminating the need for construction haul roads. Mitigation of the impacts on wetlands would be coordinated with the state and towns.

No floodplains would be affected by the proposed road corridor, but portions of it would be within the Cambridge Reservoir watershed. Pollution control structures, such as sediment traps, would be used to reduce the possibility of contaminants from the park getting into the reservoir.

Construction of this road segment would remove about 10 acres of woodland vegetation and $\frac{1}{2}$ acre of agricultural land; however, these



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effects would be mitigated by returning portions of existing Route 2A to natural conditions.

The loss of woodland vegetation would have minor effects on wildlife in this area of the park and adjacent areas. Short-term disturbance during construction periods would be offset by long-term benefits from land use management. It is anticipated that no endangered or threatened wildlife or plant species or critical habitat would be affected by development of the corridor.

Some short-term air and noise pollution could occur during construction periods.

Impacts on Cultural Resources. Under this alternative the road corridor would result in severe visual and noise impacts on the historic scene, particularly in the area of the Bluff where the corridor is within 200 feet of the historic road. Although no known archeological resources within the park boundary would be affected by this alternative, currently unknown resources could possibly be identified during road construction. Therefore, once the exact right-of-way has been determined, it will be surveyed by qualified archeologists. If significant archeological resources were identified that could be avoided by redesign of the road prism, appropriate mitigating measures would be undertaken in accordance with applicable NPS policies and guidelines.

Impacts on the Community. This alternative would require the acquisition of slightly less than $\frac{1}{2}$ mile of right-of-way outside the park boundary. No residences, would be affected. The alignment would have impacts on Minuteman Tech, Cranberry Hill, the Sheraton, etc.--e.g., redesign of existing access and visual/noise intrusions. The National Park Service would work cooperatively to minimize these effects. The access road to the Lincoln trash transfer station would be obliterated and relocated by the town.

Impacts on Visitors. This corridor for Route 2A would be extremely obtrusive in the Bluff area. Visual impacts and noise from the road would be disruptive to the historic scene, and the limited space between the historic road and the new highway would make screening ineffective. The power lines over the Bluff would also be visually disruptive unless they were relocated. Visitors at the Nelson House Visitor Center would also see and hear traffic on the new road. Some screening would be possible.

East End Corridor Option B

Description. This two-lane road segment would be approximately $1\frac{1}{4}$ miles long. Similar to option A, the corridor would lead west from Route 128 and north of Minuteman Tech, but it would follow the existing school access road and then cross an athletic field before swinging south around Folly Pond to underpass the park and flow into Hanscom Drive. This corridor would require redesign of existing intersections and widening of

the road base at the technical school. About 80-85 percent of the corridor would cross federal land, 10-15 percent nonfederal public land, and the remainder private land.

Impacts on Natural Resources. Road construction would disturb less than 1 acre of wetland. If bridging methods were used the impacts would be reduced on $\frac{1}{2}$ acre by retaining natural drainage patterns, minimizing vegetation disturbance, and eliminating the need for construction haul roads. Mitigation of the impacts on wetlands would be coordinated with the state and towns. No floodplains would be affected, but portions of the corridor would lie within the Cambridge Reservoir watershed. Any impacts on water quality would be mitigated by constructing pollution control structures for the new road alignments. Measures such as sediment traps, silt fences, and revegetation of exposed slopes would be undertaken to prevent the washing of sediments into watercourses.

This option would result in the removal of approximately $7\frac{1}{2}$ acres of woodland and about $\frac{1}{2}$ acre of agricultural land; however, these effects would be mitigated by returning portions of existing Route 2A to natural conditions.

The effects on wildlife would be the same as those in option D. It is anticipated that no endangered or threatened animals or plants or critical habitat would be affected by construction of the corridor. Some short-term air and noise pollution would occur as a result of road construction.

Impacts on Cultural Resources. The impacts on cultural resources would be similar to option A, but with less visual and noise impact on the historic scene.

Impacts on the Community. Option B would require the acquisition of approximately 1 mile of right-of-way outside the park boundary. There would be no impact on any residences or commercial establishments. It would, however, cause major impacts on Minuteman Tech, including visual/noise intrusions and redesign of existing access. In addition, this alternative would result in the loss of part of one of the school's athletic fields, an action that would require additional steps, such as replacement, to comply with section 4(f) of the Transportation Act of 1966. The access road to the Lincoln Trash transfer station would be obliterated and relocated by the town.

Impacts on Visitors. Although the new road corridor would be fairly close to the historic road in this alternative, more screening would be possible than in option A. Highway noise would be obtrusive, and the power lines would be visually disruptive unless they were relocated. More screening of this corridor from the Nelson Road Visitor Center would also be possible than in option A.

East End Corridor Option C

Description. Corridor C would be a 1-1/3 mile long, two-lane road. It would curve sharply around Cranberry Hill, proceed south around the Edison substation, cross part of a school athletic field (south of Minuteman Tech), swing around Folly Pond, underpass the historic road, and join Hanscom Drive. In addition to requiring redesign of existing intersections, there is only a narrow corridor between commercial parking at Cranberry Hill and the substation, and a low ridge south of the technical school would further constrain design of a road within this corridor. About 20-25 percent of the corridor would cross federal land, 65-70 percent nonfederal public, and 5 percent private land.

Impacts on Natural Resources. Road construction would affect approximately 2 acres of wetland--less than 1 acre of wetlands if bridges were used. This construction technique retains natural drainage patterns, minimizes vegetation disturbance, and eliminates the need for construction haul roads. Mitigation of the impacts on wetlands would be coordinated with the state and towns. No floodplains would be affected, but almost all of the road corridor would be in the Cambridge Reservoir watershed. Any impacts on water quality would be mitigated by constructing pollution control structures for the new road corridor. Measures such as sediment traps, silt fences, and revegetation of exposed slopes would be undertaken to prevent the washing of sediments into watercourses.

Option C would result in the removal of almost 13 acres of woodlands and $\frac{1}{2}$ acre of agricultural land; however, these effects would be mitigated by returning portions of existing Route 2A to natural conditions.

The effects on wildlife would be the same as those in option A. No endangered or threatened animals or plants or critical habitat would be affected by construction of the corridor.

Some short-term air and noise pollution would occur as a result of road construction.

Impacts on Cultural Resources. The impacts on cultural resources would be similar to option A. Of the east end alternatives, however, this corridor would have the least visual and noise impacts on the historic scene.

Impacts on the Community. Option C would require the acquisition of approximately 1 mile of right-of-way outside the park boundary. There would be major visual/noise impacts on two to three residences within 100 feet of the corridor and moderate visual/noise impacts on an additional two to three residences within 400 feet of the corridor. Like alternative B, this alternative could result in the loss of part of one of the athletic fields at Minuteman Tech; this action would require additional steps, such as replacement, to comply with section 4(f) of the Transportation Act of 1966. The athletic field could be left intact, but an additional one to two residences would be removed. In either case, option C would result in moderate visual/noise impacts on the school environment.

The relocation of some equipment at the Edison substation would be required as well as the redesign of commercial access and some parking at Cranberry Hill. Correspondence from Boston Edison reveals the high cost of moving the entire substation. The road to the Lincoln trash transfer station would be obliterated and relocated by the town.

Impacts on Visitors. This corridor would allow significant visual screening of the new road from the Bluff area. Some highway noise would still be noticeable, and the power lines would require relocation to remove their visual impact. Similarly, the road could be screened visually from the Nelson House Visitor Center. Some highway noise would still be present.

West End Corridor Option D

Description. This two-lane road segment would be approximately 1-1/3 miles long with smooth curves. From the North Lincoln development road, the corridor would cross a shallow valley of wetlands and agricultural fields and underpass the historic road to connect with the Concord Turnpike Cutoff west of Hardy's Hill. About 50-55 percent of the corridor would cross federal land; 30-35 percent would cross nonfederal public land, and the remainder would cross private land.

Impacts on Natural Resources. This corridor would affect approximately 2 acres of wetland. The effects on about 1 acre would be reduced by the use of segmental cantilever bridge construction. This construction technique retains natural drainage patterns, minimizes vegetation disturbance, and eliminates the need for construction haul roads. Mitigation of the impacts on wetlands would be coordinated with the state and towns. Elm Brook would be bridged, so that the road corridor would not have an impact on floodplains. Measures such as sediment traps, silt fences, and revegetation of exposed slopes would be undertaken to prevent the washing of sediments into watercourses.

Approximately 12 acres of woodland vegetation and 3 acres of agricultural land would be removed under this alternative due to construction; however, the effects would be mitigated by returning portions of existing Route 2A and other nonhistoric roads to natural conditions.

The effects on wildlife would be minor from the loss of woodland; temporary disturbance would occur during construction. It is anticipated that no endangered or threatened plants or animals or critical habitat would be affected.

Some short-term air and noise pollution would occur as a result of road construction.

Impacts on Cultural Resources. Construction of this corridor would not affect historic structures or features. Although no known archeological resources within the park boundary would be affected by this alternative, currently unknown resources could possibly be identified during road



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construction. Therefore, once the exact right-of-way has been determined, it will be surveyed by qualified archeologists. If significant archeological resources were identified that could be avoided by redesign of the road prism, appropriate mitigating measures would be undertaken in accordance with applicable NPS policies and guidelines.

Impacts on the Community. Corridor option D would require the acquisition of slightly more than $\frac{1}{2}$ mile of right-of-way outside the park boundary, and would result in major visual/noise impacts on three to five residences within 100 feet of the corridor and moderate visual/noise impacts on five to nine residences within 400 feet of the corridor. This option would require redesign of the present access for five to seven residences and bring access for seven to ten residences closer to a major thoroughfare.

There would be no impacts on commercial or institutional establishments.

Impacts on Visitors. Visitors in the Hardy's Hill area of the historic road would be able to see the new Route 2A but at a distance. Some highway noise would probably be noticeable. The extensive wetland bridge required by this route would be visible from the park. Vegetation could be planted for screening, but highway noise would be heard.

West End Corridor Option E

Description. Similar to option D, this road corridor would be a two-lane, moderate speed, 1-1/3 mile segment. It would descend a low ridge, cross the valley at a narrower place than option D, underpass the historic road, and connect with Bypass Road on the same route as option D. The corridor would require a longer cut on the ridge than option D, but it would be less visible from the Bedford Levels area. About 65-70 percent of the corridor would cross federal land, 20-25 percent nonfederal public land, and the remainder private land.

Impacts on Natural Resources. This option would disturb less than 1 acre of wetland. The effects on about $\frac{1}{2}$ acre would be reduced by the use of segmental cantilever bridge construction. This construction technique retains natural drainage patterns, minimizes vegetation disturbance, and eliminates the need for construction haul roads. Mitigation of the impacts would be coordinated with the state and towns. Elm Brook would be bridged so that the road corridor would have no impact on floodplains. Measures such as sediment traps, silt fences, and revegetation of exposed slopes would be undertaken to prevent the washing of sediments into watercourses.

Under this alternative, approximately $14\frac{1}{2}$ acres of woodland and 4 acres of agricultural land would be removed for construction of the corridor; however, these effects would be mitigated by returning portions of existing Route 2A and other nonhistoric roads to natural conditions.

The effects on wildlife would be minor and temporary from the loss of woodland and the disturbance during construction. It is anticipated that no endangered or threatened animals or plants or critical habitat would be affected by development of the corridor.

Some short-term air and noise pollution would occur as a result of road construction.

Impacts on Cultural Resources. The impacts on cultural resources would be the same as in option D.

Impacts on the Community. Option E would require the acquisition of approximately $\frac{1}{2}$ mile of right-of-way outside the park boundary, and the removal of one or two residences. This alternative would result in major visual/noise impacts on five to seven residences within 100 feet of the corridor and would require redesigned access for seven to ten residences.

There would be no impacts on commercial or institutional establishments.

Impacts on Visitors. The view from Hardy's Hill area for visitors would be the same as in option D. From the Brooks Tavern area, the wetland bridge would be visible in the middle ground, but it could be less noticeable if developed below the horizon line. Vegetation could screen the bridge visually, but a moderate amount of highway noise would be heard.

West End Corridor Option F

Description. This 3/4 mile long, two-lane corridor would descend the ridge, cross the valley at its narrowest place, underpass the park near Hardy's Hill, and flow into Bypass Road. Extensive cut and fill would be required to underpass the park at this location. About 65-70 percent of the corridor would cross federal land, 20-25 percent nonfederal land, and the remainder private land.

Impacts on Natural Resources. The proposed road corridor would disturb less than 1 acre of wetland area along Elm Brook. The impacts would be reduced to less than $\frac{1}{2}$ acre by using segmental cantilever bridge construction. This construction technique retains natural drainage patterns, minimizes vegetation disturbance, and eliminates the need for construction haul roads. Mitigation of impacts on wetlands would be coordinated with the state and the towns. Elm Brook would be bridged, and no impacts on floodplains would result from this road corridor. Measures such as sediment traps, silt fences, and revegetation of exposed slopes would be undertaken to prevent the washing of sediments into watercourses.

Construction of the proposed road corridor would remove over 8 acres of woodland vegetation and $1\frac{1}{2}$ acres of agricultural land. The amount of prime farmland affected would depend on the specific road design. These effects would be mitigated by returning portions of existing Route 2A to natural conditions.

The impacts on wildlife would be minor and temporary due to construction activities. It is anticipated that no threatened or endangered wildlife or plants or critical habitat would be affected by development of this road corridor.

Impacts on Cultural Resources. The impacts on cultural resources would be the same as those for options D and E.

Impacts on the Community. Option F would require the acquisition of slightly less than $\frac{1}{2}$ mile of right-of-way outside the park boundary, and would require the removal of one or two residences. The underpass would require provision of new access for five to seven residences. There would be no impacts on commercial or institutional establishments.

Impacts on Visitors. In this option, the underpass would be in the Hardy's Hill area and would have substantial visual and noise impacts on visitors. The impacts on visitors in the Brooks Tavern area would be the same as for option E.

Table 5: Summary Analysis of Route 2A Relocation - Corridor Options

	Option A	East End Corridor Options		Option C
		Option B	Option C	
CORRIDOR CHARACTERISTICS				
Segment Length	Approximately 1-1/3 miles.	Approximately 1½ miles.	Approximately 1-1/3 miles.	
Segment Character	Segment would be two-lane, low speed, with smooth curves. This corridor would lie almost completely on federally owned lands.	Segment would be two-lane, low speed, with smooth curves. This corridor would lie entirely on public or institutional lands.	Segment would be two-lane, speed, with one to two sharp curves. This corridor would almost entirely on public or institutional lands.	
Design Constraints	This corridor would have few design constraints. Some existing intersections would be redesigned.	This corridor would require redesign of existing intersections and widening of the road base at Minuteman Tech.	This corridor would require most redesign of existing intersections. There is only a narrow corridor between commercial at Cranberry Hill and the substation. A low ridge south of Minuteman Tech would also constrain the corridor design.	
IMPACTS ON NATURAL RESOURCES				
Wetlands	Road segment would affect approximately 4 acres of wetlands. Bridging methods would reduce the impacts on 1-2 acres by retaining natural drainage patterns, minimizing vegetation disturbance, and eliminating the need for construction haul roads.	Road segment would affect less than 1 acre of small, scattered wetlands. Bridging methods would reduce impacts on ½ acre as described in option A.	Road segment would affect approximately 2 acres of small, scattered wetlands. Bridging methods would reduce impacts on less than 1 acre as described in option A.	
Floodplains	No floodplains would be affected, but portions of the corridor would be within the Cambridge Reservoir watershed.	No floodplains would be affected, but portions of the corridor would be within the Cambridge Reservoir watershed.	No floodplains would be affected, but the corridor would be within the Cambridge Reservoir watershed.	
Flora and Fauna	Road segment would remove approximately 10 acres of woodland vegetation and ½ acre of agricultural land. Some prime farmlands could be affected (depending on specific road design); these effects would be mitigated by returning portions of existing 2A to natural conditions.	Road segment would remove approximately 7½ acres of woodland vegetation and approximately ½ acre of agricultural land. Some prime farmlands could be affected (depending on specific road design); these effects would be mitigated by returning portions of existing 2A to natural conditions.	Road segment would remove approximately 13 acres of woodland vegetation and approximately ½ acre of agricultural land. Some prime farmlands could be affected (depending on specific road design); these effects would be mitigated by returning portions of existing 2A to natural conditions.	
	The loss of woodland vegetation would have minor effects on area wildlife. Temporary disturbance would occur during road construction. No threatened or endangered plants or animals or critical habitat should be affected.	The loss of woodland vegetation would have minor effects on area wildlife. Temporary disturbance would occur during road construction. No threatened or endangered plants or animals or critical habitat should be affected.	The loss of woodland vegetation would have minor effects on area wildlife. Temporary disturbance would occur during road construction. No threatened or endangered plants or animals or critical habitat should be affected.	

West End Corridor Options		
Option D	Option E	Option F
Approximately 1-1/3 miles. Segment would be two-lane, moderate speed, with smooth curves. About one-half of the corridor would cross private land. Topography and road angle would require moderate cut and fill for construction of the underpass.	Approximately 1-1/3 miles. Segment would be two-lane, moderate speed, with smooth curves. This corridor would require a longer cut on the ridge than option D, but it would be less visible from the Bedford Levels area. About one-third of this corridor would cross private land. Topography and road angle would require moderate cut and fill for construction of the underpass.	Approximately 3/4 mile. Segment would be two-lane, moderate speed, with smooth curves. This corridor would require a longer cut on the ridge than option D. Most of this corridor would cross public or institutional lands. Topography and road angle would require extensive cut and fill for underpass construction.
Road segment would affect approximately 2 acres of wetlands. Bridging methods would reduce impacts on 1 acre as described in option A.	Road segment would affect less than 1 acre of wetlands. Bridging methods would reduce impacts on approximately $\frac{1}{2}$ acre as described under option A.	Road segment would affect less than 1 acre of wetlands. Bridging methods would reduce impacts on approximately $\frac{1}{2}$ acre as described under option A.
Elm Brook would be bridged, and its floodplain would not be affected. Road segment would remove approximately 12 acres of woodland vegetation and 3 acres of agricultural land; these effects would be mitigated by returning portions of existing Route 2A to natural conditions.	Elm Brook would be bridged, and its floodplain would not be affected. Road segment would remove approximately $14\frac{1}{2}$ acres of woodland vegetation and 4 acres of agricultural land; these effects would be mitigated by returning portions of existing Route 2A to natural conditions.	Elm Brook would be bridged, and its floodplain would not be affected. Road segment would remove approximately 8 acres of woodland vegetation and $1\frac{1}{2}$ acres of agricultural land; these effects would be mitigated by returning portions of existing Route 2A to natural conditions.
Loss of woodland would have minor effects on wildlife; temporary disturbance would occur during road construction. No threatened or endangered plants or animals or critical habitat should be affected.	Loss of woodland would have minor effects on wildlife; temporary disturbance would occur during road construction. No threatened or endangered plants or animals or critical habitat should be affected.	Loss of woodland would have minor effects on wildlife; temporary disturbance would occur during road construction. No threatened or endangered plants or animals or critical habitat would be affected.

Table 5 (continued)

	Option A	East End Corridor Options		
		Option B	Option C	
IMPACTS ON CULTURAL RESOURCES				
Structures and Features	This corridor would result in severe visual/noise impacts on the historic scene, particularly in the area of the Bluff where the corridor is within 200 feet of the historic road. Mitigation would be difficult.	Similar to option A but with less visual and noise impact on the historic scene.	Similar to option A but least visual and noise impact on the historic scene.	
Archeology	Road (1-1/3 miles) and underpass construction could destroy archeological resources associated with the historic road or other significant unknown historic or prehistoric resources. Salvage could partially mitigate loss of artifacts and information. Data are not available for lands outside the park.	Road (1 1/2 miles) and underpass construction could destroy archeological resources associated with the historic road or other significant unknown historic or prehistoric resources. Salvage could partially mitigate loss of artifacts and information. Data are not available for lands outside the park.	Road (1-1/3 miles) and underpass construction could destroy archeological resources associated with the historic road or other significant unknown historic or prehistoric resources. Salvage could partially mitigate loss of artifacts and information. Data are not available for lands outside the park.	
IMPACTS ON THE COMMUNITY				
Residences	Slightly less than 1/2 mile of this corridor would lie outside the park boundary.	Approximately 1 mile of this corridor would lie outside the park boundary.	Approximately 1 mile of this corridor would lie outside the park boundary.	Corridor would result in visual/noise impacts on three residences and could require removal of one residence (if alignment is moved away from the school/athletic field).
Commercial	Corridor would result in major visual/noise impacts on Minuteman Tech and would require redesigned access.	Corridor would result in major visual/noise impacts on Minuteman Tech and would require redesigned access. One athletic field would be lost; compliance with section 4(f) of the Transportation Act would be required.	Corridor would result in major visual/noise impacts on Minuteman Tech and could result in loss of one athletic field (if alignment was moved away from residences). Compliance with section 4(f) of the Transportation Act could be required.	Corridor would result in relocation of some equipment at the Edison substation, and could require redesign of commercial access at Cranberry Hill. A small portion of the Cranberry Hill parking area may need to be redesigned.
	Corridor would require redesign of commercial access at Cranberry Hill.	Corridor would require redesign of commercial access at Cranberry Hill.		The access road to the Lincoln trash transfer station would be obliterated and relocated by the town.
	The access road to the Lincoln trash transfer station would be obliterated and relocated by the town.	The access road to the Lincoln trash transfer station would be obliterated and relocated by the town.		The access road to the Lincoln trash transfer station would be obliterated and relocated by the town.

West End Corridor Option

Option D	Option E	Option F
No known impacts.	No known impacts.	No known impacts.
Road (1-1/3 miles) and underpass construction could destroy archeological resources associated with the historic road or other significant unknown historic or prehistoric resources. Salvage could partially mitigate loss of and information. Data are not available for lands outside the park.	Road (1-1/3 miles) and underpass construction could destroy archeological resources associated with the historic road or other significant unknown historic or prehistoric resources. Salvage could partially mitigate loss of artifacts and information. Data are not available for lands outside the park.	Road (3/4 mile) and underpass construction could destroy archeological resources associated with the historic road or other significant unknown historic or prehistoric resources. Salvage could partially mitigate loss of artifacts and information. Data are not available for lands outside the park.
Slightly more than $\frac{1}{2}$ mile of this corridor would lie outside the park boundary.	Approximately $\frac{1}{2}$ mile of this corridor would lie outside the park boundary.	Slightly less than $\frac{1}{2}$ mile of this corridor would lie outside the park boundary.
Corridor would result in major visual/noise impacts on three to five residences within 100 feet of the corridor and moderate visual/noise impacts on five to nine residences within 400 feet of the corridor.	Corridor would require removal of one to two residences.	Corridor would require removal of one to two residences.
Road construction would require redesign of access for five to seven residences and would bring access to seven to ten residences closer to a major thoroughfare.	Corridor would result in major visual/noise impacts on five to seven residences and would require redesigned access for seven to ten residences.	Underpass construction would require provision of new access for five to seven residences.
No known impacts.	No known impacts.	No known impacts.

Table 5 (continued)

	East End Corridor Options		
	Option A	Option B	Option C
IMPACTS ON VISITORS			
Visitor Experience (Historic Scene)	View from the Bluff - new 2A alignment would be extremely obtrusive; powerlines would be extremely obtrusive unless relocated; substantial highway noise would occur; screening of the road would be difficult, extremely disruptive to the historic scene.	View from the Bluff - new 2A alignment would be obtrusive, but some screening would be possible to buffer the historic scene; power lines would be extremely obtrusive unless relocated; substantial highway noise would be heard.	View from the Bluff - new alignment could be screened to buffer the historic scene; power lines were relocated; moderate highway noise would be heard.
	View from Nelson House Visitor Center - new 2A alignment would be obtrusive, but some screening would be possible to buffer the historic scene; substantial highway noise would occur.	View from Nelson House Visitor Center - new 2A alignment could be screened to buffer the historic scene; moderate highway noise would occur.	View from Nelson House Visitor Center - new 2A alignment could be screened to buffer the historic scene; some highway noise would occur.
COSTS			
Roadway	\$6,224,000	\$5,850,000	\$ 6,224,
(includes wetland bridge)		(includes wetland bridge)	(includes wetland bridge)
Underground			
utilities	780,000	780,000	780,
Underpass	3,600,000	3,600,000	3,600,
Access, inter- sections, etc.	<u>780,000</u>	<u>780,000</u>	<u>780,</u>
	\$11,384,000	\$11,010,000	\$13,384,
All figures are based on total project costs, which include gross construction costs and advanced and project planning costs.			
All figures are total project costs, which include gross construction costs and advanced and project planning costs.			
All figures are total project costs, which include gross construction costs and advanced and project planning costs.			
+Estimate is preliminary and will require further refinement.			

West End Corridor Options

Option D	Option E	Option F
View from Hardy's Hill - new 2A alignment would be visible, but at a distance; some highway noise would probably be heard.	View from Hardy's Hill - new 2A alignment would be visible, but at a distance; some highway noise would probably be heard.	View from Hardy's Hill - new 2A alignment would underpass the park interpretive area; substantial visual and noise impacts would occur.
View from Brooks Tavern area - wetland bridge would be visible at a distance and could be obtrusive if developed on horizon line; vegetation could be used for screening, but some high-	View from Brooks Tavern area - wetland bridge would be visible in middle ground, but could be less noticeable if developed below horizon line; vegetation could be used for screening, but a way noise might be heard.	View from Brooks Tavern area - wetland bridge would be visible in middle ground, but could be less noticeable if developed below horizon line; vegetation could be used for screening, but moderate moderate amount of highway noise would be heard.
<p>Roadway \$ 6,224,000 Wetland bridge 9,000,000* Underpass 3,600,000 Underground utilities 780,000 Access, inter-sections, etc. 780,000 <hr/> \$20,384,000</p>	<p>Roadway \$6,224,000 (includes wetland bridge) Underpass 3,600,000 Underground utilities 780,000 Access, inter-sections, etc. 780,000 <hr/> \$11,384,000</p>	<p>Roadway \$3,510,000 (includes wetland bridge) Underpass 3,600,000 Underground utilities 780,000 Access, inter-sections, etc. 780,000 <hr/> \$8,670,000</p>

All figures are total project costs, which include gross construction costs and advanced and project planning costs.

*This estimate is based on a worst-case assessment of wetlands; therefore, cantilever construction methods were used. Depending on road design, the cost would be significantly lower.

All figures are total project costs, which include gross construction costs and advanced and project planning costs.

All figures are total project costs, which include gross construction costs and advanced and project planning costs.

THE NORTH BRIDGE UNIT

PROPOSAL

The North Bridge unit is a site of such major importance to the April 19, 1775, story that the National Park Service will not deny the opportunity to any visitor to view it. Therefore, response to overcrowding will be by limiting the length of stay, rather than by reducing the number of visits.

Extant structures and landscape features have undergone many changes since 1775, and the site has assumed a commemorative character of significance in itself. This proposal calls for retention of the area's commemorative character. The area retains little of its 1775 appearance; rather, it possesses a number of monuments and other features that create an atmosphere of commemoration, including the following:

- The 1836 Battle Monument
- The North Bridge
- The Minute Man Statue
- The British Soldiers' Grave
- Several memorial plantings

The three major elements of the proposal are listed below.

- problems of inadequate visitor parking
- unsafe access
- poor site circulation

Because any design solution will affect local circulation and the Town of Concord, cooperation will be stressed in implementing actions proposed by the National Park Service. Unlike the proposal for the Battle Road unit, this proposal does not call for restoration of structures or landscapes to their historical appearance (see table 6).

The proposal is described in three phases (unrelated to the phases proposed for the park's Battle Road unit). Phase 1 includes primarily administrative changes that will help reduce congestion and safety problems without new construction or modification of existing traffic patterns. Phase 2, to be implemented as traffic and visitor safety concerns make it necessary, will increase parking capacity and improve the circulation and cohesiveness of the site. Phase 3, to be implemented only if needed, includes changes in an existing road alignment to further improve access to park features.

Table 6: Proposed Treatments for Cultural Resources - North Bridge Unit

Resource (Structures)	Date of Construction	Present Use	Phase 1		Phase 2		Phase 3	
			Proposed Treatment	Proposed Use	Proposed Treatment	Proposed Use	Proposed Treatment	Proposed Use
Elisha Jones House and Barn	Early 18th century	Residence	Maintain	Residence				
John Buttrick House	1715	Residence and school programs	Maintain	Administration/ Residence				
Buttrick Mansion	1911	Administration/ visitor center	Maintain	Visitor center/ administration				
Buttrick Carriage House	1911	Storage	Maintain	Storage/ administration				
Buttrick Care- taker's House	1911	Residence	Maintain	Residence				
<u>Archeological Resources</u>								
John Flint Site Muster Field Prehistoric Site #19-MD-91			Locate Protect Protect	Study Interpret Resource data base				
Ephraim Buttrick Site Willard Buttrick Site Prehistoric Site #19-MD-90			Protect Locate Protect	Interpret Study Resource data base				
David Brown Site Roads west of The North Bridge			Locate Locate	Study Interpret				

Phase 1

In cooperation with the Town of Concord, the existing Monument Street parking area will be redesigned and capacity expanded slightly to maximize the use of available space. This area currently accommodates 58 vehicles and 4 buses. The redesigned lot is expected to accommodate additional vehicles. Safety at the pedestrian crossing will be improved by installation of a walk light and/or by changing the pavement surface at the crossing. The park will negotiate with the town to find the best solution.

To further maximize the existing parking capacity, the existing unpaved overflow parking area south of The Old Manse (Sargent Field) will be reorganized. The ground surface will be stabilized to protect vegetation and control wear caused by driving on the unpaved ground. Vegetation will be planted to reduce the visual impact of the parking area.

With no significant increase in visitor parking space, it will be necessary to control parking demand by encouraging visitors to spend only a minimum amount of time at the North Bridge unit. This will be accomplished by prohibiting special activities at the bridge and by shortening the duration and interval between interpretive programs during periods of peak visitation. Improved signing and orientation to the Wayside and Battle Road units will also help distribute visitation throughout the park. Additionally, the park will continue to work with other organizations in the area to encourage the development of peripheral parking, alternative transportation systems, and the development of walking and bicycle trails to reduce the number of cars coming to The North Bridge.

Signs at the unit will be improved during this phase, and new wayside exhibits and visitor center exhibits will be installed as now being planned by the National Park Service.

A more extensive monitoring of parking to assess needs and turnover rates will be undertaken. Documentation of traffic problems and safety conflicts will also be improved.

Soil compaction and erosion may be harming the trees along the commemorative walkway from Monument Street to The North Bridge. At this time, there is little evidence in the condition of the trees. Possible solutions were explored to reduce soil compaction, including building new surfaces over the existing soil, tilling the soil, and rechanneling pedestrian traffic. However, these solutions will either increase the negative impact of the compaction, produce only a short-term gain, or have no impact on the trees. While it produces only a short-term gain, periodic tilling of the soil will be undertaken to minimize damage to the trees.

Phase 2

As site congestion and safety conditions make it necessary, phase 2 will be implemented. The parking, traffic, and safety statistics generated in phase 1 will be used to determine the appropriate schedule for proposed phase 2 actions.

If safety problems have not been mitigated, the National Park Service will work to eliminate the dangerous crossing of Monument Street; the street will be rerouted to the east of the parking lot. This will require a reduction in the size of the lot, but it will still be used for bus and parking for the handicapped. The parking area south of The Old Manse will be expanded to accommodate most of the visitor parking. As in phase 1, plantings will be used as needed to visually screen the parking area.

Depending on the need, the existing visitor center parking area will also be expanded, and staff parking will be relocated.

A new path will be developed to link the John Buttrick House and the Muster Field with the visitor center parking area. If the Town of Concord should at sometime replace the Flint Bridge, the park would work with the town to design it to provide pedestrian access across the bridge. The pedestrian walkway might be attached, or cantilevered, to the existing bridge as well. If a pedestrian bridge is built, a loop trail would be developed to connect unit resources.

Phase 3

Phase 3 is anticipated only as a long-range action if and when additional site expansion is needed. In this phase, Liberty Street would be rerouted within the unit boundary to unite site resources and improve visitor circulation. A portion of Liberty Street would be retained for visitor access to the visitor center parking area. A historic portion of Liberty Street would be restored as has been completed on portions of Groton Road, also at this unit. The portion of Estabrook Road within the unit boundary would also be restored.

The visitor center parking area would be shifted to the northeast and further expanded if necessary. The other parking areas would be retained as described in the previous two phases.

ALTERNATIVES

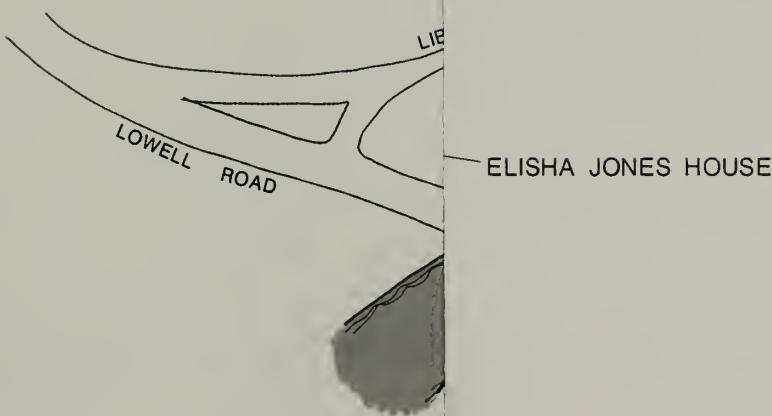
This section provides an environmental assessment of the North Bridge unit alternatives. First, alternatives are described, and second, impacts of the proposal and alternatives are discussed. Estimated development costs are also provided.

Minimum Requirements Alternative

In this alternative no development changes would be made. Administrative actions to ease parking congestion and improve visitor safety would be undertaken as in phase 1 of the proposal.

Close Monument Street Alternative

This alternative would close Monument Street to through-traffic on either side of Flint Bridge (which would remain open for pedestrian and emergency access). Local traffic in and out of Concord Center would be rerouted via Liberty Street and Lowell Road. Visitor parking would be accommodated south of The Old Manse, with the existing Monument Street parking area available for handicap access and buses. Visitor contact and orientation exhibits would be moved to the Elisha Jones House, but park administration would remain at the Buttrick Mansion (existing visitor center).



NORTH BRIDGE UNIT
EXISTING CONDITIONS
MINUTE MAN
NATIONAL HISTORICAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE



NORTH BRIDGE UNIT
EXISTING CONDITIONS
MINUTE MAN
NATIONAL HISTORICAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

IF PARKING TO ASSESS NEEDS,
ID SAFETY CONFLICTS

CONTINUE EXISTING USE PARKINSTRUCTURE
AND BUSES

IMPROVE SIGNS

LIB
ATE WITH TOWN FOR
GHT ON MONUMENT STREET
CHANGE IN PAVEMENT SURFACE

LOWELL
ROAD

ELISHA JONES HOUSE

NORTH BRIDGE UNIT
PROPOSAL-PHASE 1/
MINIMUM REQUIREMENTS
MINUTE MAN
NATIONAL HISTORICAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

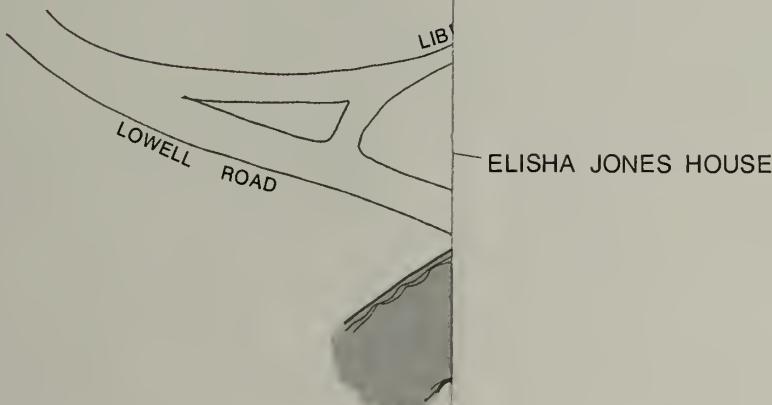


EXPAND PARKING ON DEMAND UP TO
EXISTING STRUCTURES AND PROVIDE
CROSSWALK TO JOHN BUTTRICK HOUSE
AND MUSTER FIELD.
STAFF PARKING AT MAINTENANCE AREA

ULD THEY REPLACE FLINT BRIDGE
SING AND POSSIBLE REORIENTATION

E MONUMENT STREET

EXISTING PARKING,
ASE LOT SIZE FOR
ND HANDICAP PARKING



NORTH BRIDGE UNIT
PROPOSAL-PHASE 2
MINUTE MAN
NATIONAL HISTORICAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE



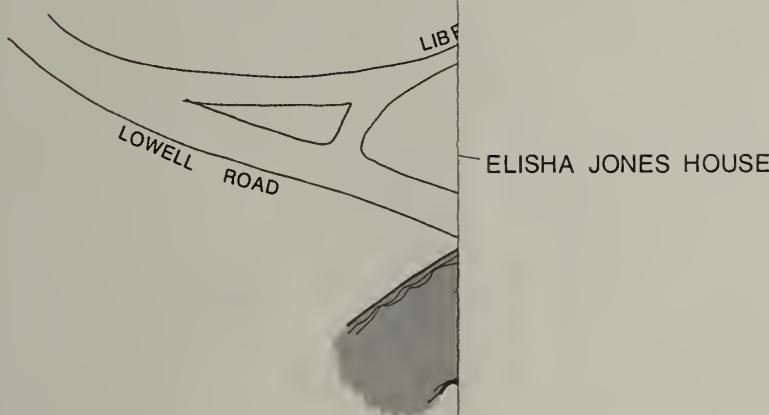
RESTORE HISTORIC PORTION OF LIBERTY STREET

OBLITERATE ESTABROOK ROAD WITHIN PARK

REROUTE
LIBERTY STREET
(WITHIN BOUNDARY)

PARKING

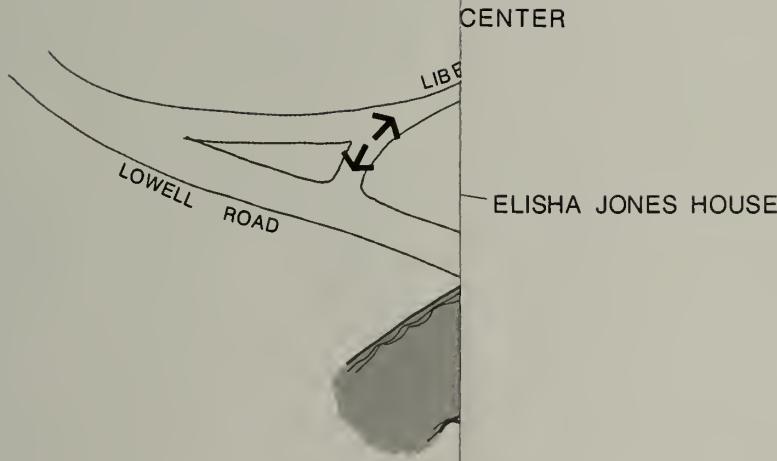
PARK ROAD TO PARKING AREA



NORTH BRIDGE UNIT
PROPOSAL-PHASE 3
MINUTE MAN
NATIONAL HISTORICAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE



NORTH BRIDGE UNIT
PROPOSAL-PHASE 3
MINUTE MAN
NATIONAL HISTORICAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE



NORTH BRIDGE UNIT
CLOSE MONUMENT
STREET ALTERNATIVE
MINUTE MAN
NATIONAL HISTORICAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

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NORTH BRIDGE UNIT
CLOSE MONUMENT
STREET ALTERNATIVE
MINUTE MAN
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NATIONAL PARK SERVICE

ENVIRONMENTAL IMPACTS OF PROPOSAL AND ALTERNATIVES

Impacts on Cultural Resources

Proposal. In all phases of the proposal, archeological testing would be required for parking area expansions and trail construction. If resources are discovered, disturbance would be avoided if possible, or the disturbance would be mitigated by excavation and recording of information. Archeological resources proposed for study and subsequent interpretation would be treated in accordance with NPS policies and guidelines. Otherwise, no effects on cultural resources are anticipated.

Minimum Requirements Alternative. The impacts on cultural resources would be the same as the proposal.

Close Monument Street Alternative. As in the proposal, any parking area or roadwork would require archeological testing and mitigation for any resources discovered. Archeological resources selected for study and subsequent interpretation would be treated in accordance with appropriate NPS policies and guidelines. Otherwise, no effects on cultural resources would be anticipated.

Impacts on Natural Resources

Proposal. In phase 1, the expansion of the Monument Street parking area would require the paving of a small amount of additional vegetated area. This area has been previously disturbed, however, when it was used for restroom facilities. An increase in paved surface would minimally increase the runoff into the Concord River, including small additional amounts of petroleum products. The expansion of parking south of The Old Manse would be limited by wetland areas. Under NPS guidelines, small parking areas in floodplains are an excepted action; however, parking areas are not excepted for wetlands. Informal overflow parking during dry periods would be permissible. If additional parking is in the floodplain, the superintendent would develop an evacuation plan in the event of flooding. The superintendent has the authority to close the parking area during periods of high water.

In phase 2, rerouting Monument Street east of the parking area would primarily use currently developed areas, but also may require the taking of a small amount of additional vegetated area. This impact would be mitigated by replanting a developed area. The expansion of parking at the visitor center would also remove some vegetated area, and the increase in paved surface would increase the amount of impervious surface slightly, thus increasing runoff into the Concord River, including petroleum products. Also in phase 2 (as in phase 1), the expansion of parking areas south of The Old Manse would be limited by wetland areas. The development of a loop trail in phase 2 would require the taking of 0.55 acre of vegetated area.

In phase 3, the realignment of Liberty Street would require the taking of additional natural area; however, the impacts would be mitigated by obliteration of portions of Estabrook Road and Liberty Street. The expansion of parking at the visitor center would also remove some natural area, and the increase in paved surface would increase runoff into the Concord River, including increased amounts of petroleum products from these surfaces. Also in phase 3 (as in phases 1 and 2), the expansion of parking areas south of The Old Manse would be limited by wetland areas.

Minimum Requirements Alternative. The impacts on natural resources would be the same as in phase 1 of the proposal.

Close Monument Street Alternative. No effects on natural resources would be anticipated. As in the proposal, expansion of parking south of The Old Manse would be limited by wetland areas.

Impacts on Visitors

Proposal. The installation of a walk light or other traffic control device at the Monument Street crossing would improve visitor safety in phase 1 of the proposal. The need to keep the visitor's length of stay to a minimum by a reduction of the length and duration between interpretive programs and elimination of special events may limit visitor understanding and enjoyment of the site.

Rerouting of Monument Street in phase 2 would greatly improve visitor safety by eliminating the busy street crossing. The new walkway connecting the Muster Field, visitor center, and John Buttrick House would improve continuity of the site and would probably increase visitor understanding, but it might also increase the length of stay and put more demand on parking space. Encouraging more visitors to cross Liberty Street might cause a minor safety hazard; this would be alleviated, however, if Liberty Street were rerouted as recommended in phase 3.

Minimum Requirements Alternative. The impacts on visitors would be the same as those in phase 1 of the proposal.

Close Monument Street Alternative. Elimination of the need for visitors to cross Monument Street would greatly improve safety and site continuity. Relocation of the visitor center function to the Elisha Jones House would concentrate all primary visitor services near The North Bridge. The Muster Field and John Buttrick House would be available for special events, demonstrations, and living history programs that have been eliminated from the unit.

Impacts on the Community.

Proposal. No effects on the community are anticipated in phase 1. Any negative visual impact of increased parking south of The Old Manse would be mitigated by vegetative screening. In phase 2 the rerouting of

Monument Street would result in a more curvy alignment that might slow local traffic somewhat; however, fewer conflicts with visitor and pedestrian traffic would occur. Phase 3, if it were implemented, would require federal acquisition of one tract of private land. In both phases 2 and 3, a temporary inconvenience would result from road construction and parking area expansion.

Minimum Requirements Alternative. The impacts on the community would be the same as for phase 1 of the proposal.

Close Monument Street Alternative. Closure of Monument Street would significantly alter local traffic patterns. Increased traffic on Liberty Street would disturb residents as well as create greater congestion at the intersection with Lowell Road. Some Monument Street residents could benefit from elimination of through-traffic along that route.

**ESTIMATED DEVELOPMENT COSTS AND PHASING SCHEDULE - NORTH BRIDGE UNIT
Proposal**

<u>Development Item/Phase (including size, quantity, etc.)</u>	<u>Gross Construction Costs</u>	<u>Advanced and Project Planning Costs</u>	<u>Total Project Costs</u>
Phase 1			
Expand Monument Street parking capacity			(park operational)
Install orientational and directional signs	\$ 2,620	\$ 500	\$ 3,120
Stabilize and expand Sargent Field overflow area	68,120	13,000	81,120
Install waysides			(currently funded)
Install exhibits at visitor center			(HFC funding)
Increase screening	13,100	2,500	15,600
Install walk lights			(city/state funding)
Total Phase 1			\$ 99,840
Phase 2			
Relocate Monument Street	\$ 216,150	\$ 41,250	\$ 257,400
Expand visitor center parking area	31,440	6,000	37,440
Expand Sargent Field parking area	36,680	7,000	43,680
Develop loop trail	26,200	5,000	31,200
Total Phase 2			\$ 369,720
Phase 3			
Reroute Liberty Street	\$ 622,250	\$ 118,750	\$ 741,000
Restore historic portion of Liberty Street	39,300	7,500	46,800
Obliterate Estabrook Road within park	15,720	3,000	18,720
Expand visitor center parking area	31,440	6,000	37,440
Total Phase 3			\$ 843,960

Estimated Additional Operations and Maintenance Costs (in 1988 dollars)

Phase 1	Staffing Costs	3.0 work years
		\$ 51,000
Phase 2	Staffing Costs*	2.0 work years
		\$ 51,000
Phase 3	Staffing Costs**	3.0 work years
		\$ 74,000

*Includes costs and staffing of phase 1

**Includes costs and staffing of phases 1 and 2

ESTIMATED DEVELOPMENT COSTS AND PHASING SCHEDULE - NORTH BRIDGE UNIT
 Minimum Requirements Alternative

<u>Development Item/Phase (including size, quantity, etc.)</u>	<u>Gross Construction Costs</u>	<u>Advanced and Project Planning Costs</u>	<u>Total Project Costs</u>
Expand Monument Street parking capacity			(park operational)
Install orientational and directional signs	\$ 2,620	\$ 500	\$ 3,120
Stabilize and reorganize Sargent Field overflow area	68,120	13,000	81,120
Increase screening	13,100	2,500	15,600
Install walk lights			(city/state funding)
Total			\$ 99,840

Estimated Additional Operations and Maintenance Costs (in 1988 dollars)

<u>Staffing Costs</u>	2.0 work years
	\$ 51,000

ESTIMATED DEVELOPMENT COSTS AND PHASING SCHEDULE - NORTH BRIDGE UNIT
 Close Monument Street Alternative

<u>Development Item/Phase (including size, quantity, etc.)</u>	<u>Gross Construction Costs</u>	<u>Advanced and Project Planning Costs</u>	<u>Total Project Costs</u>
Expand Sargent Field parking	\$ 78,600	\$ 15,000	\$ 93,600
Adapt Elisha Jones House for visitor contact	196,500	37,500	234,000
Total			\$ 327,600

Estimated Additional Operations and Maintenance Costs (in 1988 dollars)

<u>Staffing Costs</u>	2.0 work years
	\$ 51,000

THE WAYSIDE UNIT

There is limited action planned for the Wayside unit; the proposal meets the National Park Service's minimum requirements alternative criteria. Environmental impacts are not anticipated. Parking for this unit will remain in its present location and configuration.

No alternatives to the proposal were assessed because all actions proposed are necessary for visitor and resource protection. Estimated costs associated with the proposal are also presented.

PROPOSAL

This 18th-century structure, enlarged substantially in later years, was the home of three families of authors--Louisa May and her father Bronson Alcott, Nathaniel Hawthorne, and Harriet M. Lothrop, who wrote under the pen name Margaret Sidney. The Wayside plays an important role in the story of Concord's 19th-century literary achievements, and has been restored to its appearance at the time of the death of Harriett M. Lothrop. Five other historic houses related to the literary story in Concord are maintained and interpreted by private historical organizations.

Although restored in the early 1970s, The Wayside has subsequently undergone some structural deterioration. Also, water damage and excessive wear to elements of the historic fabric are evident, and the structure has inadequate mechanical systems. Specific concerns include stability of the central chimney stack, deteriorated plaster in the ceiling, deteriorated finishes on the woodwork, unsafe electrical wiring, and the need for year-round humidity controls.

The Wayside will undergo substantial rehabilitation, including assessment and repair of structural problems, preservation of historic fabric, and improvement of the environmental control systems. The park will also implement the Historic Furnishings Report (NPS 1983) and the Historic Grounds Report (NPS 1970).

ESTIMATED DEVELOPMENT COSTS AND PHASING SCHEDULE - THE WAYSIDE

<u>Development Item/Phase (including size, quantity, etc.)</u>	<u>Gross Construction Costs</u>	<u>Advanced and Project Planning Costs</u>	<u>Total Project Costs</u>
Complete restoration	\$ 131,000	\$ 25,000	\$ 156,000
Implement historic furnishings report	19,650	3,750	23,400
Implement historic grounds report			NA
Total			\$ 179,400

Estimated Additional Operations and Maintenance Costs (in 1988 dollars)

<u>Staffing Costs</u>	-- None
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MANAGEMENT ZONING

Park lands are zoned to indicate which park operations and management functions, visitor uses, and developments are appropriate in different locations. The designation of management zones are based on the park's authorizing legislation and NPS policies. The nature of the park's resources, desired visitor experiences, and established uses were used to establish the management zones.

This section describes the various zones proposed for Minute Man National Historical Park and indicates their approximate acreages (also see Management Zoning map).

HISTORIC ZONE (690 acres)

Lands in this zone are managed for preservation, protection, and interpretation of cultural resources and their settings. Most of the national historical park is designated within this zone and is further classified into three subzones.

Preservation Subzone (125 acres)

Lands and structures that are important because of their aesthetic value and their association with personages, events, or periods of human history are managed for preservation and interpretation in this subzone. Included are the Wayside unit and The Battle Road and most of its corridor.

Preservation/Adaptive Use Subzone (6 acres)

In this subzone, significant historic structures may be used, with necessary modifications, for contemporary public and/or administrative functions. Uses must permit perpetuation of the culturally significant qualities of the structures. The park visitor center/administrative complex at the Buttrick Mansion and its associated buildings, along with the visitor center at the John Nelson House and Barn, are in this subzone.

Commemoration Subzone (98 acres)

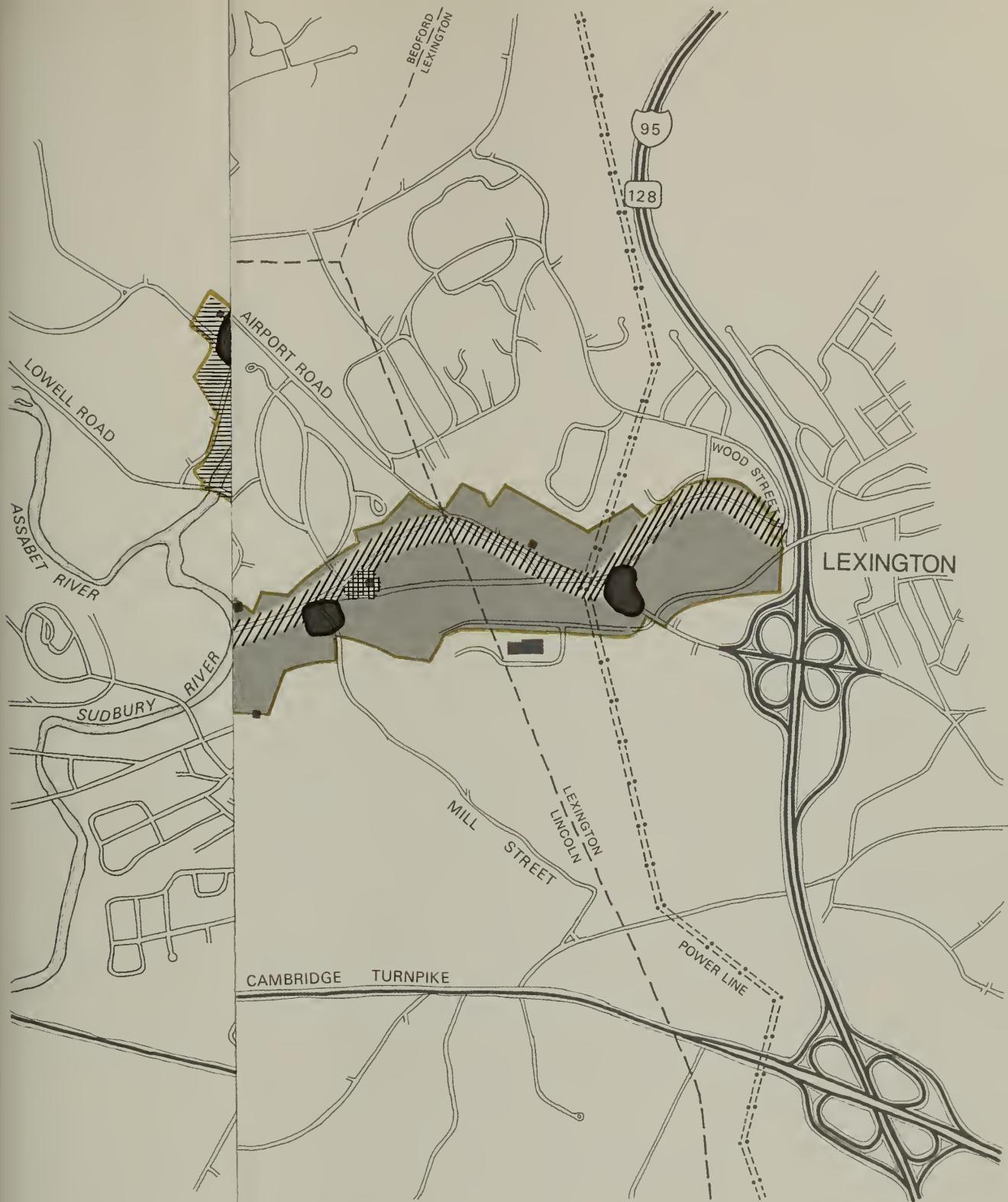
Lands in this subzone are managed for interpretation of historic personages, periods, or events through resources so altered that they create a commemorative setting rather than a strictly historical one. The North Bridge unit is in this subzone. While the North Bridge, its approach walkway, and the Minute Man Statue are under ownership of the Town of Concord, they are maintained by the National Park Service, and so are included in the unit classification.

Landscape Management Subzone (461 acres)

Lands in this subzone are intensively managed to enhance aesthetic quality, facilitate interpretation, and/or promote public use and enjoyment. Classified in this subzone are open lands maintained through grazing, haying, or other agricultural use or by cyclic burning, and lands cultivated to replicate historic gardens or orchards.

PARK DEVELOPMENT ZONE (55 acres)

Areas developed to serve visitor needs and/or park management, and where development and/or intensive use substantially alter the historic or natural setting are included in this zone.



MANAGEMENT ZONING
MINUTE MAN
NATIONAL HISTORICAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE



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LAND PROTECTION PLAN

INTRODUCTION

This land protection plan describes the proposed strategies for protecting lands within and adjacent to Minute Man National Historical Park in Massachusetts. This plan is necessary to carry out the purposes of the park and to fulfill the policy requirements of the U.S. Department of the Interior and the National Park Service.

In May 1982, the Department of the Interior issued a policy statement (47 FR 19784) to guide use of the federal portion of the Land and Water Conservation Fund. The policy requires that, in carrying out its responsibility for land protection in federally administered areas, each agency using the fund will take the following steps:

Identify what land or interests in land needs to be in federal ownership to achieve management unit purposes consistent with public objectives in the unit.

Use to the maximum extent practicable, cost-effective alternatives to direct federal purchase of private lands and, when acquisition is necessary, acquire or retain only the minimum interests necessary to meet management objectives.

Cooperate with landowners, other federal agencies, state and local governments, and the private sector to manage lands for public use or protect them for resource conservation.

Formulate, or revise as necessary, plans for land acquisition and resource use or protection to ensure that sociocultural impacts are considered and that the most outstanding areas are adequately protected and managed.

In compliance with departmental and NPS policies, relevant legislation, other congressional guidelines, and executive orders, the National Park Service has prepared this land protection plan for Minute Man National Historical Park. It identifies methods of ensuring the protection of the natural, historic, scenic, cultural, recreational, or other significant resources, and provides for adequate visitor use. This plan is being prepared with public participation, and with the utmost attention paid to consideration of the many alternatives available for land protection requirements. Once the land protection plan has been approved, revisions or updates will be made as necessary to reflect changing conditions.

This plan does not constitute an offer to purchase land or interests in land. Nor does the plan restrict or diminish the rights of the landowner in the use of his property. Any purchase of land or interests in land is subject to the availability of funds.

PURPOSE OF THE PLAN AND RESOURCES TO BE PROTECTED

The major issues to be addressed by the land protection plan are identification of the means necessary to provide sufficient resource protection and provide for public use, and to establish priorities for protection. At Minute Man, the intent of the land protection plan is to protect the historic lands and scene within the park from the effects of residential and commercial development, and to provide the necessary lands to implement the recommendations in the GMP.

The land protection plan addresses this intent by examining several interconnected aspects of land protection--historic resource protection, historic scene preservation, historic scene protection, rights-of-way accessibility and intrusions, and park developments.

Historic resource protection emphasizes resources directly or peripherally involved in the April 19, 1775, action. These resources are vital to fulfilling the mandate of the park's establishing legislation; thus, the emphasis of this plan is to ensure that the historic resources of Minute Man National Historical Park are adequately protected.

The scope of the historic scene involved in the draft GMP proposal is not limited to the area within the range of an 18th-century musket, but also includes some of the rear fields that the Minutemen used for maneuvering. Scenery on April 19, 1775, would have consisted of homelots, fields, meadows, and pastures interspersed with orchards, woodlands, and an occasional marshy area. While they do not represent the historic configuration, these same elements, in different proportions, can be found in the park today. However, the proximity of modern subdivisions and other development has narrowed the area available for appropriate representation along much of The Battle Road to lands within the park and a few undeveloped adjacent parcels. These remnants of the rural colonial landscape are integral to replication of the early American scene and critical to implementation of the draft GMP proposal.

Just as the historic scene is integral to replication of the colonial atmosphere, the viewshed in which the historic scene rests is also important to the historicity of the area. The viewshed ties more loosely, by virtue of its distance from the areas of battle action, to the integrity of the visitor experience envisioned in the draft GMP proposal; nonetheless, it is visually important as a transition ground from the historic moment to the present day. Some of the historic scene and much of the viewshed lie outside the current park boundary, and federal purchase of any interest in these lands will require congressional action to increase the national historical park's legislated extent. Without expanded authorization for federal investment, no additional park lands may be acquired.

Rights-of-way crossing park lands are examined closely in this plan. The existence of public and private rights-of-way through Minute Man National Historical Park could prevent eventual achievement of the draft GMP proposal. The most obvious right-of-way conflict is Route 2A, covering a

large portion of the historic Battle Road. Old Massachusetts Avenue, Airport Road, Virginia Road, Old Bedford Road, and Lexington Road also overlay portions of the historic trace. Side roads and private drives accessing the modern roads that travel the proposed restored sections of The Battle Road will be examined for potential rerouting or cul-de-sacing. Some private homes have no other readily available access, and alternate access rights-of-way will need to be acquired or developed.

SPECIAL LEGISLATIVE CONSTRAINTS

Currently, an administrative boundary with an acreage ceiling of 750 acres can be adjusted to implement the development proposed in the draft GMP (see table 7). As the park currently administers approximately 749 acres, if additional acreage is needed to accomplish the proposed developments beyond what is available through possible deletions, legislative action to increase the park's acreage ceiling will be required.

Table 7: Summary of Land Protection Proposals

	<u>Acreage</u>
NPS scenic easements	
Current NPS total	1.46
Proposed acquisition	25.99
Proposed retention of deleted fee lands	<u>43.45</u>
 Total proposed NPS easement interest	70.90
Net change	+69.44
 NPS fee lands	
Current NPS total	738.92
Proposed acquisition	
donation	74.73
purchase	109.57
transfer	4.97
Proposed deletion	<u>44.45</u>
 Total proposed NPS fee interest	883.74
Net change	144.82
 Lands protected through cooperative agreement	4.08
 Proposed total acreage	958.72

CURRENT LANDOWNERSHIP AND USES

HISTORY AND CURRENT STATUS OF LAND PROTECTION ACTIONS

Since the establishment of Minute Man National Historical Park in 1959, the prime management goal has been to protect and, where feasible, restore the historic 1775 scene along The Battle Road and to reduce the adverse effects of surrounding development. Land acquisition to accomplish these goals has taken a variety of forms.

Most properties were purchased. Several tracts were donated to the national historical park from a variety of sources including the Town of Lincoln, the Lexington Historical Society, and the Minuteman Regional Vocational-Technical School District. The Department of Defense has transferred a parcel to the park.

The park holds a scenic easement along the northeast side of five tracts it owns on the northeast side of Marrett Street, near the Battle Road Visitor Center. This easement covers the back portion of several subdivision lots.

Throughout the park, especially in the Old Bedford Road/Virginia Road section of Lincoln and along Lexington Road in Concord, a number of properties were purchased by the United States, allowing for retained use and occupancy rights for a specific term or for the life of the seller. These conditions allow the seller continued use as a homeowner through the duration of the contract, at the end of which time the Park Service holds the sole interest. During the contract period, the seller may sell, rent, bequeath, or otherwise assign these rights to any other individual.

LAND USES SURROUNDING THE PARK

Minute Man National Historical Park is within the towns of Concord, Lincoln, and Lexington, each of which has a distinct character and a distinct set of concerns. Together they include some of the region's most significant historic and open space resources. As land management decisions within the park can affect the ambience of the neighboring towns, similarly, land use decisions made by the towns can affect the future of the park. A cooperative planning process between the park, the towns, and other major landowners, particularly Hanscom Air Force Base, Minuteman Tech, and Massport is important in developing the best possible future for the park and neighboring lands and toward continuing the pattern of compatible land use.

Area land use near the park is undergoing increasing development pressure. With I-95/Route 128 nearby, access to high-speed travel is excellent. Suburban office development and light industrial facilities are expanding the area employment base.

Of specific concern to NPS management has been the growth of L.G. Hanscom Field, operated by the Massachusetts Port Authority. Since the major access to the field and to Hanscom Air Force Base is along a section of The Battle Road (2A), there is increasing pressure for additional highway capacity on The Battle Road. Already the intersection of Hanscom Drive and 2A has been upgraded and widened. A project for widening 2A to three lanes with signal control at the eastern entrance to the park is also being designed.

Local governments are concerned about these roadway pressures and have organized a study effort called the Hanscom Area Traffic Study (HATS). In addition, each of the towns as well as Massport and the Air Force, has been actively engaged in its own planning efforts regarding this area.

Potential changes in the land use and policies of surrounding governments will affect park visitors. These also have a bearing on the type of park that Minute Man will become.

LAND USE PROJECTIONS

Valuable land and a continuing growth trend in the suburbs west of Boston are two major factors influencing development of land west of Route 128. The three towns in which Minute Man National Historical Park is located share considerable interest in the acquisition and preservation of open space; yet each town must cope with its own decisions concerning development.

Predictions indicate a continuing strong land market for both commercial and residential uses in the area. Thus, whatever development does occur, and its location, will be greatly affected by the zoning policies of each town.

These projections have been considered during the analysis of park land protection needs and recommended actions.

COMPATIBLE AND INCOMPATIBLE USES OF NONFEDERAL LANDS

All nonfederal lands within the park are identified by parcel as to existing land use compatibility with park purposes--resource protection, visitor use, and safety. Existing land uses that perpetuate the historic scene of the area, or where modern use closely resembles use during the period the park unit commemorates, are encouraged. Minute Man National Historical Park encompasses or abuts several privately owned parcels of land that are currently in compatible use but which could be subject to future development. To be truly compatible with the draft GMP proposal, all land uses visible from the historic Battle Road corridor would closely resemble the land uses that existed at the time of the battle.

Certain portions of the park are subject to different types and degrees of intrusion on the historic scene. Road noise is a problem throughout the

park; however, its intensity varies from a multilane, limited access roadway (Route 128), through a two-lane, heavily used commuter road (Route 2A), to local byways like Mill Street or Bedford Road. There is also airplane noise from Hanscom Field, which is fairly prevalent throughout the park, and seasonal residential noises from lawnmowers, power saws, and snowblowers. Other intrusions are visual--modern homes, schools, businesses, power lines, paved roads and Hanscom Field. The basic accoutrements of modern life are out of place in a historical park commemorating an event that occurred over 200 years ago.

Some of these intrusions can be screened by vegetation or walls, some are sufficiently distant from the actual historic corridor that their influence is greatly diminished, and some may eventually be phased out or relocated. However, recognizing the park's location in the midst of a rapidly growing metropolitan area, it is impractical to imagine all incompatible neighboring land uses being altered for historical integrity, especially in the immediate future. Private lands supporting incompatible existing uses within the park are generally sought for federal acquisition.

The following are examples of uses compatible with the draft plan proposal for development of the national historical park:

continued existing residential property use with no externally visible signs of use change, except in cases where land is required for park development

continued existing conservation land used for passive recreation

continued existing agricultural use with no increase of use intensity

In some instances, land currently in a compatible use will be acquired when the owner offers to sell, in order to meet long-range objectives of protecting the historic resources, restoring the historic scene, or providing visitor use.

The National Park Service would regard the following actions as incompatible with the purpose of Minute Man National Historical Park. These actions by a landowner would cause the Park Service to seek to acquire the property:

new commercial development

new residential development on previously undeveloped land

expansion of an existing commercial or residential property, except as provided above

conversion of a residential property to commercial use that requires exterior changes or generates traffic

construction of additional separate residences on previously developed property

subdivision or splits in ownership for any of the above uses

documented increase in damage to resources, scenery, or the historic scene

PROTECTION ALTERNATIVES

The land protection methods in this section have been analyzed for their applicability in protecting park resources and visitor use experiences.

FEDERAL, COMMONWEALTH, AND LOCAL LAND USE REGULATIONS

Applicable federal, commonwealth, and local regulations were considered in developing protection methods. At the federal level, the park is listed on the National Register of Historic Places and thus has some protection from federal or federally assisted or permitted actions that might have an adverse impact on the historic resources. Commonwealth zoning regulations require that historic areas be considered in developing local plans.

Local governments in Massachusetts enjoy a high degree of home rule, and the three towns containing the park are largely responsible for determining present and future land uses, according to their own prerogatives. All have zoning ordinances, subdivision regulations, overlaying historic, or preservation/conservation zoning. The town plans reference historic preservation as one of the purposes of zoning. However, potentially adverse changes in land use are continuing. The majority of the changes are occurring where the greatest population growth and residential development has occurred in the past 10 years.

Table 8 shows the status of planning and land use regulations in the towns around the park.

Table 8: Local Planning and Land Use Regulations

	<u>Comprehensive Plans</u>	<u>Zoning Ordinances</u>	<u>Subdivision Regulations</u>
Concord	Long Range Plan October 1987	Amended 4/85	Updated 3/86
Lexington	None	Amended 5/87	Updated 9/86
Lincoln	In progress, summer 1987	Amended 11/86	Updated 10/82

In addition to local regulation, private, nonprofit organizations could assist the park by encouraging and accepting open space easements that would preserve historic scenes and resources next to the park.

The National Park Service does not have the desire or the financial ability to own or administratively control all of the property bordering Minute Man National Historical Park. It is, however, vitally interested in

current land uses or potential land use changes in areas that border or are visible from the park units.

The National Park Service recognizes that land use changes will continue in all three local jurisdictions in which the park is located and that the viability of the region is dependent on providing the resources necessary to sustain a positive economy.

The NPS objective is to continue to work with local governments and property owners to develop land use protection strategies that will be mutually advantageous to all concerned. Land use changes that are carefully planned and defined with full regard for the resources of the park can be developed to a level of compatibility that is acceptable to both the National Park Service and the local communities. The sharing of objectives between local governments and the Park Service through continual communication can bring about the necessary level of compatibility.

The park is actively involved in local transportation and land use analysis and planning commissions, and the superintendent frequently attends local planning, recreation, and zoning commission/board meetings. The populous, growing nature of the area introduces interesting variety to the potential for coordinating local concerns and interests with park land protection priorities.

Preservation of the area's heritage, represented in this plan, can only be achieved with the support and cooperation of local governments. This support can take numerous forms but is most effective through the actions of local planning commissions and the continuing enactment of land use zoning controls that recognize the unique value of the park, the national significance of the history it represents, and the role it plays in the quality of life in the area. Establishing guidelines for building heights, development density, and vegetative screening as part of local development reviewing processes, could help preserve the traditional setting throughout the communities surrounding the park.

ACQUISITION

Types of Acquisition

Fee. Fee simple acquisition is the acquisition of all interest in a property. Federal acquisition of land in fee title, in most instances, provides the maximum protection of land and its resources and often provides the greatest opportunity for visitor use. Fee acquisition is required in those instances where maximum protection of resource values is necessary, the area is desired for public use, or an investment of federal funds requires fee acquisition before improvement. Fee purchase also may be appropriate where an easement would so limit use of the land that the easement price would be virtually equal to fee; an example would be a scenic easement prohibiting all construction on a piece of land suitable for intensive urban development. Fee acquisition is also

appropriate for popular visitor use areas and where resource protection cannot be ensured through use of less-than-fee measures.

Fee acquisition is recommended for protecting areas that are either directly or indirectly incompatible with the draft GMP proposal. These concerns include areas of historic resource protection, historic scene preservation, viewshed maintenance, and rights-of-way accessibility. Areas currently compatible with the national historical park are more efficiently protected by local zoning or by development-limiting easements, thereby maintaining the land as part of the local tax base and reducing potential park administration responsibilities. However, some access and land uses that blend with the park's present scene are in conflict with the long-range goals of the draft GMP proposal. These areas need consideration for long-range resource protection, and their protection priority will rise over time as the eventual achievement of the park's plans nears.

Fee with a Life or Term Estate

The federal government may acquire a property subject to the owner reserving the right to use and occupy the property under a life or term estate. This strategy provides for eventual public use or ownership with some savings to the federal government, since the value of the retained estate is subtracted from the purchase price. The property passes to the United States upon the death of the last surviving party named in the reservation or the expiration of the term. Life or term estates reduce personal disruptions to the former owners and are most effective for areas not immediately planned for park use or development. Former owners also have the ability to transfer these rights to others during the contract period.

Easement

An easement is a legally enforceable interest in land created by a transfer of property rights. Property ownership may be envisioned as a bundle of rights, including among others the rights to farm, to cut trees, to construct facilities, and to exclude others from the property. The number of such rights that may be included in an easement is unlimited. Easement rights can be characterized as positive (allowing a use) or negative (restricting a use). For example, the federal government could acquire a positive easement to ensure public access across a property or a negative easement to restrict the owner's right to construct a house.

To provide adequate protection, the terms and stipulations of easements must reflect the type of land involved and the specific level of protection required. Whether to purchase a property in fee or in easement depends on several factors, including resource values, immediacy of visitor use needs, and the needs of the owner.

METHODS OF ACQUISITION

Purchase

All purchase negotiations are based on appraisals of fair market value. If a landowner is interested in selling and the National Park Service has indicated an interest in the property, the federal government will have the property appraised. The landowner is encouraged to accompany the appraiser to point out features of the property that should be considered in making the appraisal.

The offer is based on an approved appraisal. This appraisal is a professional estimate of fair market value, which is the price that an owner could reasonably expect to receive if the property sold on the open market. The offer price will not be less than the approved appraised value.

Donations and Bargain Sales

Donations and bargain sales are methods of acquiring land or interests in land at less than full market value. Landowners may receive tax advantages by donating fee or less-than-fee interests of their land to the United States. A bargain sale is a sale of property at a price that is less than its fair market value. The result is part sale and part charitable contribution. Landowners should consult a qualified tax advisor for details. The opportunity exists to use these methods for some acquisitions proposed by this plan.

Exchange

Private lands or interests can be exchanged with the United States for land or rights of equal value. Where equal value does not exist and exchange is still desired, the difference can be made up by either party to equalize the value. This plan proposes that lands deleted from the park be used in exchange for lands proposed for acquisition wherever possible.

Other public lands, including roads, may be acquired only by donation or exchange, and may not be purchased.

Purchase and Sell-Back

Purchase and sell-back or lease-back transactions can also be used to acquire certain specific interests from property owners. In these situations, the land is purchased; certain restrictions providing resource protection become an encumbrance on the title to the property, and the land is then sold or leased back to a private party, subject to these restrictions.

This technique seems to have limited application. It could be used instead of easements to encourage the continuation of open, undeveloped land uses. The cost of such an arrangement could also exceed that of an easement, which would accomplish the same purpose. The use of sell-back and lease-back to encourage the continuation of agricultural uses would have the added benefit of preserving a traditional land use.

Use of Condemnation Powers

Condemnation, considered a last resort action, includes two types of proceedings--complaint-only and complaint with a declaration of taking. Condemnation by complaint-only is used in instances where the owner and the federal government cannot reach a price agreement. A complaint with a declaration of taking is generally used to obtain immediate title to and possession of land to protect it from irreparable resource damage or to clear title to land after a negotiated settlement.

COOPERATIVE AGREEMENTS

Cooperative agreements are documents that define administrative arrangements between two or more parties. For the park, agreements such as the one between the National Park Service and the town of Concord regarding management and maintenance of the memorial walkway and North Bridge could be negotiated between the Park Service and the towns of Concord, Lexington, and Lincoln, the commonwealth of Massachusetts, other units of government, and private parties. The terms of agreements might relate to the specific parcel or area of the park to be affected, the type of activity or level of development to be provided, any necessary restrictive provisions, and who is responsible for enforcement. Cooperative agreements are most applicable to shared planning and maintenance of facilities and services, definition of law enforcement responsibilities, and management of wildlife habitat.

TECHNICAL ASSISTANCE/NEGOTIATED DEVELOPMENT

Park staff can provide landowners with information about importance of the park and opportunities for development to be designed to minimize adverse impacts.

EXCLUSION/DELETION

In addition to identifying land requiring protection to serve the purpose of the park, this plan also reviewed the status of all land within the park whether federally owned or not. This review of landownership was conducted as part of the general management plan preparation process. As a result, certain lands have been identified for exclusion from the park. Recommendations for exclusion were based on the lack of primary associations with the historic events that occurred in the battle which the National Park Service seeks to preserve and interpret.

RATIONALE FOR LAND PROTECTION

A variety of considerations were incorporated into planning for the land protection plan. Three categories of properties were identified.

Primary Historic Resource Tracts

This category includes the land, roads, structures, archeological remains, and other cultural resources associated with the fighting on April 19, 1775. These properties were the sites in which the American minutemen and militia engaged in the running attack on the British Regulars. It includes the road the British column marched down and land upon which the fields, orchards, fences, walls, buildings, and trees the Americans and British flankers maneuvered through. These properties need to be in federal ownership to provide protection for the primary historic resources and visitor use.

Tracts Required for Development and Visitor Use

This category includes properties needed to implement the developments proposed in the draft general management plan. These properties will provide corridors for relocating the roads which carry nonpark traffic through Minute Man National Historical Park, provide essential visitor orientation facilities, or eliminate the need for providing modern access through the reconstructed historic scene.

Tracts Required to Preserve the Historic Setting

This category includes properties where easements are required to preserve the historic setting within which the park is located. Fee ownership of these parcels is not required. A less than fee interest is needed to ensure that open space, agriculture, or other compatible uses are not replaced by modern development in the future. Use of these tracts is also covered by other restrictions including local zoning ordinances and state wetland protection regulations.

Table 9 lists the tracts included in these categories. In addition, it provides information on their ownership, location, and size.

LAND PROTECTION PRIORITIES

Table 9 lists priorities established for the protection of tracts necessary to implement the draft general management plan. Three priorities for land protection have been established:

Priority 1

Priority 1 tracts are those that contain primary historic resources, are needed for park development, or are currently being threatened, and are required to implement the general management plan of which is not restricted legally because they are roads or rights-of-way.

Priority 2

Priority 2 tracts are those that contain primary historic resources, are needed for park development, or are currently being threatened, and the acquisition of which is complicated by conflicts between public and private access (roads and rights-of-way) and the proposals of the general management plan.

Priority 3

Priority 3 tracts are those that are not needed for park development, are currently under compatible use and are not threatened, but are important for maintaining visual continuity of the historic setting and are recommended in order to provide for the future protection of the park.

Before any specific protective actions would occur, these tracts would have to be identified and included within the park's legislated acreage. This official inclusion requires congressional action to expand the national historical park.

The priorities are intended to serve as a guide for protecting park properties and for apportioning available land acquisition funds. They are based on the park-related values of the areas and the potential for major adverse impacts if undeveloped parcels were developed. Priorities may be adjusted periodically to reflect changing conditions. The priority list would be most applicable when acquisition funding was limited, or when several properties were simultaneously offered for sale and funds were insufficient to allow all of them to be purchased.

It is not possible to predict in advance when landowners may be subject to hardships that require them to dispose of land, or make improvements in land, or to know when action by landowners may cause significant or irreparable damage to unit resources. Accordingly, both emergencies and hardships will be reviewed on a case-by-case basis as they arise and will not affect the overall setting of priorities in the preparation of land protection plans.

If a property was offered for sale, donation, or exchange to the United States the priority list would be taken into account. The potential for incompatible use could necessitate adjustment of the priorities.

Table 9: Land Protection Recommendations by Tract

Tract	Rationale	Priority	Owner	Reference	Acres	Recommendation
01-104	A	2	Boston Edison	Powerlines	3.09	Fee
01-105	A	2	Boston Edison	Powerlines	2.83	Fee
01-108	A	2	Private	Access	0.24	Fee
01-113	A	2	Lexington	Old Mass/Wood/Bonair/Fairview	3.11	Fee (Donation)
01-115*	A	2	State	Route 2A/Airport Rd	24.66	Fee (Donation)
01-115*	A	1	State	Marrett St/Excess right-of-way	8.60	Fee (Donation)
01-115*	A	2	Concord	Lexington Road	3.17	Fee (Donation)
01-116	A	1	Air Force	Patterson Road	0.36	Fee (Transfer)
01-138*	C	-	NPS	Available for exchange with protection	0.50	
01-157*	C	-	NPS	Available for exchange with protection	4.00	
01-Area	A	1	Private	North of Hayward Avenue	9.00	Fee
01-Area	B	1	Air Force	Tabitha Nelson	2.5	Fee (Transfer)
01-Area	C	1	Private	Airport Road Houses	2.00	Fee
01-Area	D	1	Vo-Tech	New Houses	4.0	Fee
02-102	A	1	Air Force	Air Force Bluff	0.61	Fee (Transfer)
02-104	A	1	Lincoln	Aaron Brooks	0.48	Fee (Donation)
02-125*	A	1	Air Force	Patriot Village	1.5	Fee (Transfer)
02-156*	-	-	NPS	Air Force Housing	.5	Transfer to Air Force
02-160*	-	-	NPS	Air Force Housing	.5	Transfer to Air Force
02-169	A	2	Lincoln	Mil Street	0.32	Fee (Donation)
02-172	A	2	Lincoln	Va Rd/Bedford La/Bedford Rd	6.82	Fee (Donation)
02-174	A	1	Private	Bedford Lane Triangle	0.11	Fee
02-Area	A	1	Private	West of Bedford Road	0.93	Fee
02-Area	B	1	State	Bedford Road (North Alignment)	0.93	Fee (Donation)
02-Area	C	1	???	Hanscom Drive Triangle	1.10	Fee
02-Area	D	3	Lincoln Meadows	Lincoln Buffer	8.50	Easement
03-112	A	2	Private	Elm Brook	0.79	Fee
03-113	A	2	Lincoln	Access	0.33	Fee
03-170	A	2	Lincoln	Brooks Road	0.34	Fee (Donation)
03-171	A	2	Concord	SunnySide Avenue	0.83	Fee (Donation)
03-172	B	2	Private	Shadyside Avenue	0.20	Fee (Donation)
03-177	C	3	Private	West of Brooks Road	0.90	Fee
03-178				East of Brooks Road	0.87	Easement

<u>Tract</u>	<u>Rationale</u>	<u>Priority</u>	<u>Owner</u>	<u>Reference</u>	<u>Acres</u>	<u>Recommendation</u>
03-180	A	2	Lincoln	Virginia X Old Bedford Road	0.04	Fee (Donation)
03-182	C	-	NPS	Noah Brooks	3.65	Available for exchange with protection
03-Area A	A	1	State	Sunnyside (North Alignment)	3.00	Fee (Donation)
03-Area B	A	1	Private	Cranberry Hill II	3.00	Fee
03-Area C	B	1	Massport	Bedford Levels	9.40	Fee (Donation)
03-Area D	B	1	Massport	Bedford Levels	8.50	Fee (Donation)
03-Area E	B	1	Private	Bedford Levels	13.00	Fee
04-108	C	3	Private	Samuel Whitney House	2.94	Easement
04-110	C	3	Concord	Access	0.83	Easement
04-111	B	2	Concord	Old Bedford Road	0.83	Fee (Donation)
04-118*	C	-	NPS	Farwell Jones	35.30	Available for exchange with protection
04-125	A	2	Private	Access	0.66	Fee
04-127	A	2	Private	Manuel Drive	0.48	Fee
04-130	A	2	Private	Right-of-way	0.33	Fee
04-Area A	A	1	Private	South Woods	16.00	Fee
04-Area B	A	1	Private	Manuel Drive	7.50	Fee
04-Area C	A	1	Private	Perry Land	31.19	Fee
05-101	B	1	Private	River Frontage	1.37	Fee
05-102	A	-	Trustees of Reserv.	Old Manse	6.61	Fee
05-104	B	1	Private	John Buttrick	0.92	Fee
05-105	C	3	Private	David Brown	0.70	Easement
05-107	C	3	Private	David Brown	0.73	Easement
05-108	C	3	Private	Jonas Bateman	5.70	Easement
05-109	C	3	Private	Reuban & Simon Hunt	1.54	Easement
05-110	C	3	Private	Reuban & Simon Hunt	4.18	Easement
05-111	B	1	Private	Liberty Street X Lowell Road	1.10	Fee
05-Area A	B	1	Private	Muster Field	6.50	Fee

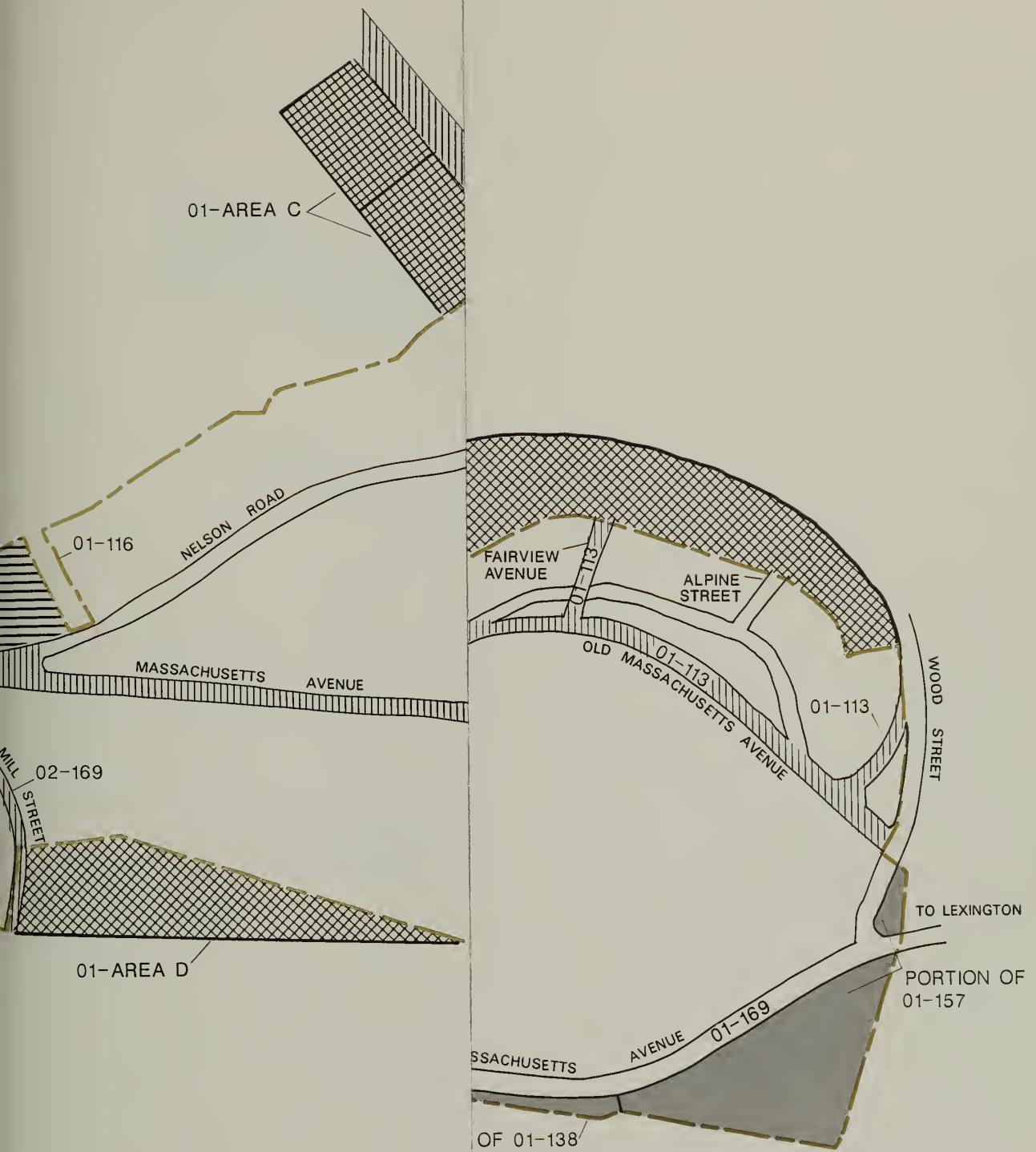
*Portions

Priority:

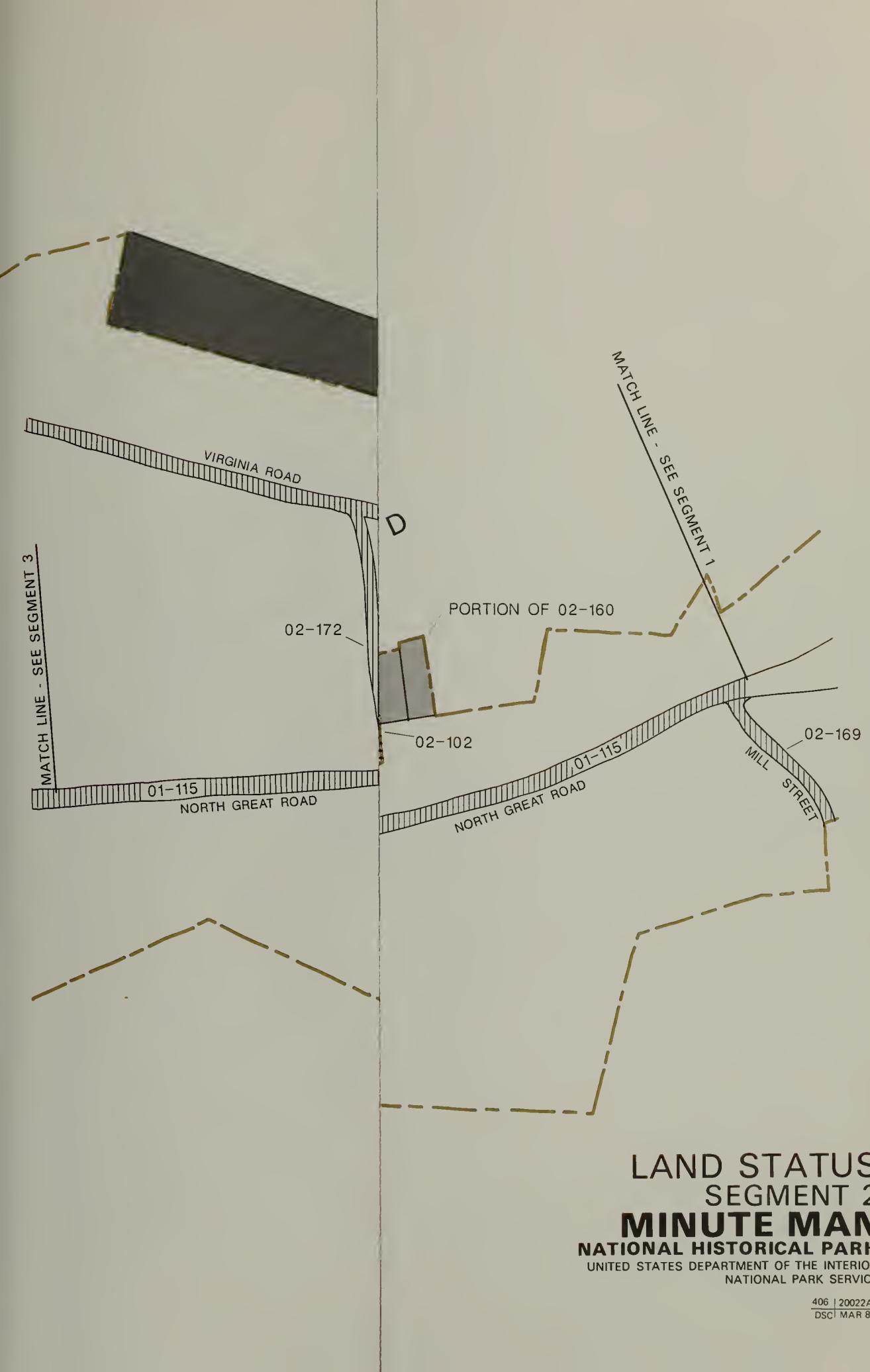
- 1 - Areas that contain primary historic resources, are needed for park development, or are currently being threatened, and the acquisition of which is not restricted legally because they are roads, rights-of-way, etc.
- 2 - Areas that contain primary historic resources, are needed for park development, or are currently being threatened but the acquisition of which is restricted legally because they are roads, rights-of-way, etc.
- 3 - Areas not needed for park development, but are important for visual continuity, which are currently under compatible use and are not threatened but which are recommended for protection.

Rationale:

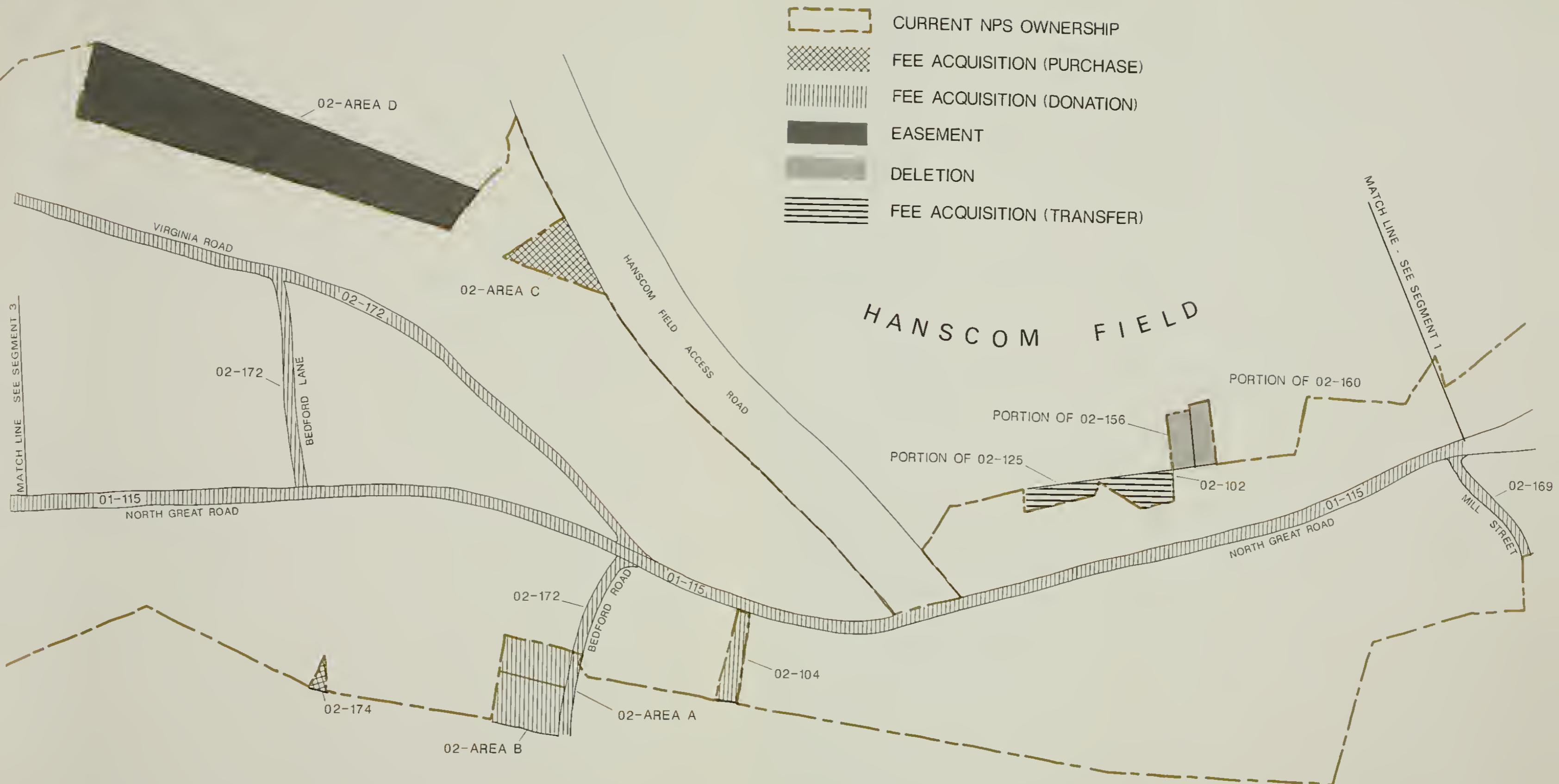
- A - Primary historic resource tracts
- B - Tracts required for development and visitor use
- C - Tracts required to preserve the historic setting



LAND STATUS
SEGMENT 1
MINUTE MAN
NATIONAL HISTORICAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

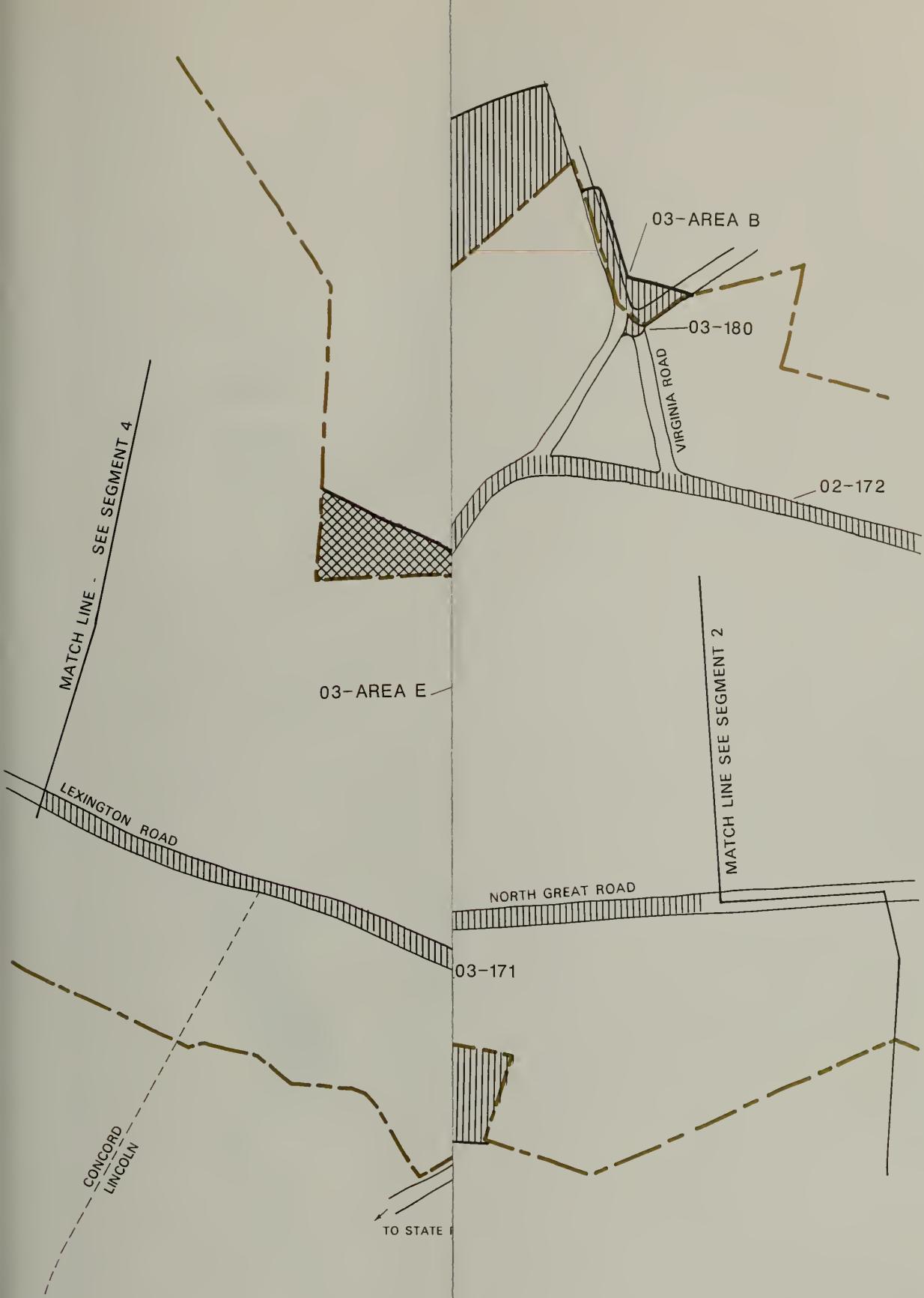


LAND STATUS
SEGMENT 2
MINUTE MAN
NATIONAL HISTORICAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE



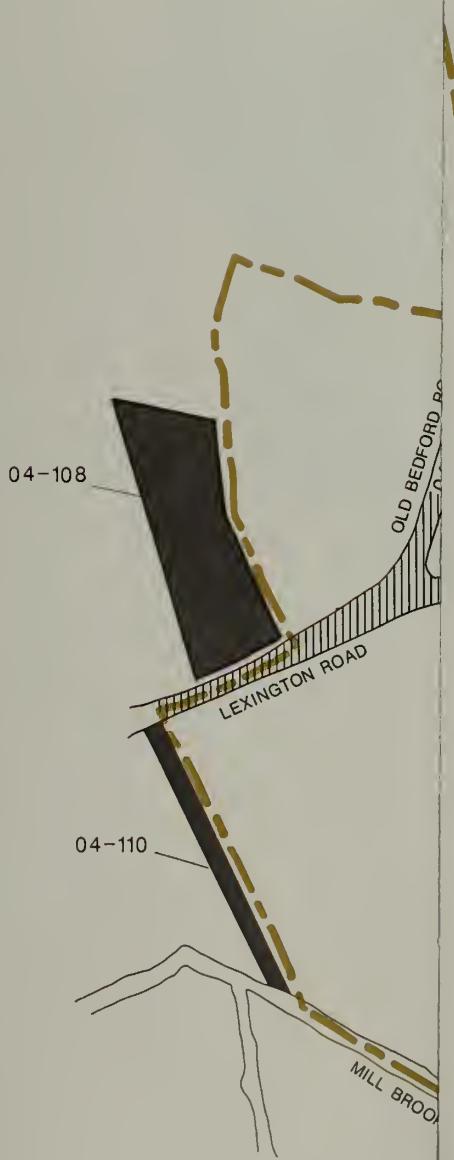
LAND STATUS
SEGMENT 2
MINUTE MAN
NATIONAL HISTORICAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

0 200 400 600 FEET
NORTH



LAND STATUS
SEGMENT 3
MINUTE MAN
NATIONAL HISTORICAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE





LAND STATUS
SEGMENT 4
MINUTE MAN
NATIONAL HISTORICAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE



LAND STATUS
SEGMENT 4
MINUTE MAN
NATIONAL HISTORICAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

05-110
05-109
05-108
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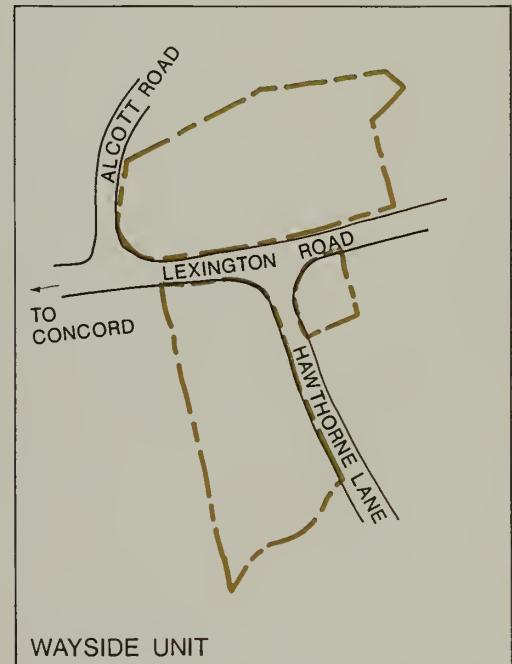
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FEE ACQUISITION (PURCHASE)

LOCAL ZONING

COOPERATIVE AGREEMENT

EASEMENT



NORTH BRIDGE UNIT
LAND STATUS
SEGMENT 5

MINUTE MAN
NATIONAL HISTORICAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

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NORTH BRIDGE UNIT
LAND STATUS
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CONSULTATION AND COORDINATION

SUMMARY OF PUBLIC INVOLVEMENT

Since the beginning of the National Park Service's general management plan planning effort in 1985, public input has been sought in several ways. A newsletter entitled "The Correspondent" has been issued periodically to update the public on planning progress, to solicit comments and attendance at meetings, and to provide summaries of public meeting results. Two sets of public meetings have been held as well as a series of meetings with special interest groups, local government representatives, and interested individuals. Workbooks distributed in conjunction with the meetings have been returned with many written comments. Additionally, the park staff has established a planning exhibit room at the North Bridge Visitor Center and has collected written and verbal comments from visitors. Following are summaries of public responses received to date.

PUBLIC MEETINGS AND WRITTEN RESPONSES, APRIL-OCTOBER 1985: IDENTIFICATION OF PLANNING ISSUES

In general, people agreed that the park should reflect the unique importance of the events of April 19, 1775, and that the park should be accessible and responsive both to national visitors and the local community. A large majority of people indicated that traffic on The Battle Road is an obstacle to the use and enjoyment of the park. Complete removal of traffic from The Battle Road received much support, while widening the road elicited little support. There was strong interest in the development of walking paths through the park and some interest in shuttle systems, and bicycle and equestrian trails. Most comments reflected a need for more visible and identifiable signing and some people suggested that the park needs more delineating landscape features such as perimeter fences and walls. The issue of landscape restoration generated a wide range of opinions, but a combination of landscape restoration and modern agricultural practices was the most favored treatment for park lands. Suggestions for use of historic buildings included interpretation, bed-and-breakfast or restaurant establishments, general public leasing, and residences for park staff. Case-by-case selective restoration of historic buildings was a favored treatment approach, with many people preferring primarily exterior restoration.

SPECIAL REPRESENTATIVE MEETINGS AND WRITTEN COMMENTS, JUNE 1986: RESPONSE TO PRELIMINARY CONCEPTUAL ALTERNATIVES

Of four conceptual alternative plans presented, support was nearly unanimous for removal of all traffic from The Battle Road and for restoration of the road and landscape features as nearly as possible to their 1775 appearance. Some people expressed concern that a "walking park" could limit opportunities for handicapped visitors, and some people questioned whether visitors would walk The Battle Road at all. Concern was expressed for the high cost of relocating Route 2A and restoring The

Battle Road, but most people agreed that the significance of the site would justify the effort and expenditure.

PARK VISITOR COMMENTS, SUMMER 1986

The majority of comments supported removal of traffic from The Battle Road, but some encouraged continued vehicle access for elderly or handicapped visitors. A few people recommended widening the road to accommodate both commuter and visitor traffic. Many people encouraged purchase of additional lands to protect the park from surrounding development. Requests for additional interpretive opportunities were common, and the greatest number of commentors requested additional or more effective directional signing. Restoration of historic structures received interest, as did landscape restoration, but many people expressed concern that not too many trees be removed.

PUBLIC MEETINGS AND WRITTEN COMMENTS, APRIL-JUNE 1987: RESPONSE TO NPS PRELIMINARY PROPOSAL AND ALTERNATIVES

Overall, enthusiastic support was expressed for the Battle Road Unit proposal. Many questions about the effects on secondary roads of the Route 2A relocation indicated significant concern about local traffic circulation and access, and town-NPS workshops were requested to work out detailed solutions. Some people expressed concern over the potential cost of the proposal, and others questioned the practicality of requiring visitors to walk to park resources. There was much interest in shuttle and/or tour services along the Battle Road unit and also to and around the North Bridge unit and other area historic features. Concession operated food and lodging services were also suggested, and many people stressed the desirability of links to local/regional bike and walking trails. Retention of existing agricultural uses along with historic landscape restoration was of interest to some people. A suggestion for formation of a local park support group to further participate in plan implementation was made and received with some enthusiasm.

At the public meeting in Concord the alternatives presented for the North Bridge unit were not received with general approval. The idea of closing Monument Street was considered especially undesirable. A more palatable alternative to Concord residents was suggested--that of relocating Monument Street behind the existing parking area and expanding the overflow parking area south of The Old Manse.

NORTH BRIDGE NEIGHBOR'S MEETING, JANUARY 20, 1988

Approximately 70 neighbors of the North Bridge unit of Minute Man National Historical Park and Concord residents attended this informal meeting. A number of attendees were interested in statistics to substantiate the stated problems of inadequate visitor parking and safety problems, which were discussed as the primary issues. The issue of the poor site circulation was also discussed.

Public response varied from acknowledgement of visitor access problems and concern for the visitor experience to denial of traffic and safety problems and sole concern for residential quality. The majority of the people were in favor of lower-tech improvements, and some supported the use of the Sargent Field (the existing overflow lot) as the primary parking lot. Support was expressed for the Town of Concord to cooperate with the park in installing a pedestrian walk light or traffic bumps, and increasing traffic enforcement. Suggestions also included a cooperative effort between the area museums--e.g., shared visitor orientation center, parking staging area, and a shuttle bus.

RESPONSE FROM TOWNS AND STATE AGENCIES

The superintendent and planning team met with key staff from the Massachusetts Executive Office of Transportation and Construction on several occasions to discuss the Route 2A realignment proposal. Frederick Salvucci, secretary of the Executive Office of Transportation and Construction, expressed his support for the project and acknowledged that the realignment would be necessary for the mission of the park to be accomplished. The secretary expressed concern about who would finance the construction, and explained that the National Park Service would have to take the lead in promoting the project. He also stated that he did not see the lengthening of Route 2A as a problem as it is not a main arterial roadway as is Route 2.

The National Park Service has also been in contact throughout the planning process with town boards and interest groups in the adjoining towns. There has been general support for the proposals and the Route 2A relocation. The towns would like to ensure that traffic would not be increased in the towns, and that alternative accesses be provided in order to meet the needs of residents and to maintain adequate emergency and other public services. The towns and the park have agreed to work further on the development of a relocated road that will enhance local transportation and a roadway that would provide suitable buffering from noise and visual impacts.

COMPLIANCE CONSIDERATIONS

CULTURAL RESOURCES

Because Minute Man National Historical Park is included on the National Register of Historic Places, actions affecting it, such as adoption and implementation of the GMP, are subject to comment by the Advisory Council on Historic Preservation and the Massachusetts State Historic Preservation Officer. Pursuant to regulations promulgated by the council (36 CFR 800), the National Park Service, the Advisory Council, and the National Conference of State Historic Preservation Officers have executed a programmatic memorandum of agreement for the NPS planning process. In accordance with the provisions of that agreement, staffs of the council and the Massachusetts Historical Commission have participated in the development of this document through reviews of draft plans. That participation will continue throughout the remainder of this planning process. Evidence of final compliance with section 106 will be provided in the final environmental compliance document prepared for the GMP.

Along with NPS policies, guidelines, and standards as amended in 1981, the 1979 programmatic memorandum of agreement requires the National Park Service to take into account state historic preservation plans as it develops planning documents for its park sites. Cultural Resources in Massachusetts: A Model for Management (Massachusetts Historical Commission 1979) establishes a broad framework for the preservation, interpretation, and management of the state's resources. The GMP for Minute Man National Historical Park addresses many of the concerns expressed in that 1979 report. The research on which the GMP is based addresses the five management needs for eastern Massachusetts articulated in the state plan. In addition, many of the study units listed in the 1979 plan and the local surveys for Lexington, Lincoln, and Concord have already been incorporated into the interpretive programs of the park. The role of early highways and the development of taverns, for example, are presented at the Hartwell Tavern. The topic of architecture from the colonial period to the early years of the 20th century is reflected in the number of structures--restored and adaptively used--that are located throughout the park. The National Park Service is proposing to reuse with minimal restoration all 18th- and 19th-century buildings in the park, including the 1911 Buttrick home overlooking the North Bridge unit. These varied elements of the GMP collectively meet the basic goals the state plan presents for historic preservation programs by integrating the consideration of the physical remains of the past into current management and planning decisions, advocating the importance of preserving both representative and outstanding properties, and demonstrating "the importance of a better understanding of the past through the study of remaining cultural resources." (See page 2 of the Cultural Resources in Massachusetts: A Model for Management.)

NATURAL RESOURCES

Consultation has been undertaken with other agencies, groups, and individuals to obtain information about the existing environment.

To the extent possible, no development will be done in the floodplain of the Concord River or its tributaries. Development determined to be in the floodplain will comply with Floodplain Management Guidelines for Implementing Executive Order 11988 (Water Resources Council, Federal Register, February 10, 1978).

Maps prepared by the U.S. Fish and Wildlife Service were consulted to determine the effects of development alternatives on designated wetlands in and adjacent to the park. The Massachusetts Department of Environmental Quality Engineering and the conservation commissions of the towns will be contacted to help determine effects on wetlands in the adjacent communities and establish conditions upon which the plan may proceed.

The Fish and Wildlife Service has indicated that except for occasional transient animals, no federally listed or proposed threatened or endangered plants or animals are known to exist in or adjacent to the park. The Massachusetts Natural Heritage Program lists 70 species of vertebrates and 21 species of invertebrates as endangered, threatened, or of special concern. The state agency did not indicate the existing location or extent of range of these animal species. Areas within the park will be surveyed for the presence of state-listed species prior to any development.

The extent of wetlands affected depends on the bypass corridor selected. The National Park Service will obtain the appropriate permits from the town conservation commissions and the U.S. Army Corps of Engineers, in compliance with section 404(b)(1) of the Clean Water Act.

Section 4(f) of the Department of Transportation Act mandates that the secretary of transportation will not approve any project that requires the use of land from a public park, recreation area, or wildlife and waterfowl refuge. The routing of the bypass road through playing fields of Minute Man Regional Vocational-Technical School would be subject to the provisions of section 4(f).

AGENCIES AND ORGANIZATIONS CONSULTED

Following is a list of many of the local, regional, state, and federal agencies and organizations that have been consulted during the planning effort:

Local/Regional

Concord Board of Selectmen
Concord Free Public Library
Concord Historical Collaborative
Concord Historical Commission
Concord Historic Districts Commission
Concord Minute Men
Concord Natural Resources Commission
Concord Planning Board
Hanscom Area Traffic Study
Harvard University Graduate School of Design
Lexington Board of Selectmen
Lexington Conservation Committee
Lexington Department of Public Works
Lexington Historical Commission
Lexington Historical Society
Lexington Minute Men
Lexington Planning Board
Lincoln Board of Selectmen
Lincoln Conservation Commission
Lincoln Minute Men
Lincoln Planning Board
Minuteman Regional Vocational Technical School
Orchard House
The Concord Museum
The Old Manse
The Thoreau Lycum
The Trustees of Reservations

State

Executive Council on Historic Preservation
Executive Office of Environmental Affairs
Executive Office of Transportation and Construction
Massachusetts Department of Public Works
Massachusetts Historical Commission
Massport
State Historic Preservation Officer
Walden Pond State Reservation
Massachusetts Department of Environmental Quality Engineering

Federal

Advisory Council on Historic Preservation
Department of Agriculture
 Soil Conservation Service
Department of Defense
 Department of the Air Force
Department of the Interior
 U.S. Fish and Wildlife Service
 Great Meadows National Wildlife Refuge
Department of Transportation
 Federal Aviation Administration
 Federal Highway Administration

APPENDICES / BIBLIOGRAPHY / PLANNING TEAM

APPENDIX A: MANAGEMENT OBJECTIVES

CULTURAL RESOURCE PRESERVATION

Protect all cultural resources within the park.

Protect and, where feasible, restore the historic 1775 scene and its associated cultural resources along the Lexington to Concord Battle Road.

Reduce adverse effects on the historic scene due to residential development, utilities, roads, inadequate parking, and other uses and developments.

Preserve and adaptively use the 19th-century structures within the park.

Preserve The Wayside and interpret the lives of the three authors who lived there as well as the mid 19th-century literary scene in Concord.

COOPERATION

Cooperate with local communities, including Concord, Lincoln, Bedford, and Lexington, as well as private organizations for the purpose of preserving and interpreting the park's historic events and resources.

Participate in the planning efforts of the state, towns, and local institutions as those plans affect the park and its transportation patterns.

VISITOR USE

Reduce or eliminate operational deficiencies in public facilities and services in the North Bridge and Battle Road units.

Provide for use and enjoyment of the park through the provision of visitor facilities and services for interpretation, sightseeing, picnicking, nature study, and other activities compatible with the park's historical and natural values.

INTERPRETATION

Foster understanding and appreciation of the social, economic, and political environment that led to the armed conflict of April 19, 1775, and the consequences of that conflict to the American colonies, Great Britain, and the rest of the world.

Completely develop the park's information base, performing all research needed to understand and interpret the park's story and resources.

Provide interpretive programs that make the park story and interpretive resources available to as wide a community as possible, taking into consideration the needs of special audiences and interest groups.

Promote an understanding of the park's secondary themes of architecture, historical crafts and skills, 18th-century agriculture and military tactics, and the social and cultural life of Concord in the 18th century.

Interpret the 19th-century literary phenomenon in Concord using *The Wayside* as the focus of this theme.

APPENDIX B: TRAFFIC DATA

Traffic volumes for Route 2A and Lexington Road in 1983 are shown below. These data were developed by the Central Transportation Planning Staff in the "Hanscom Area Traffic Study" (a cooperation transportation planning effort of a number of metropolitan state agencies).

Location	AWDT*	A.M. Peak Hour	P.M. Peak Hour
2A (Marrett Road) west of Route 128	19,900	1,684	1,970
2A at Lexington town limits	17,500	1,513	1,700
2A east of Concord Turnpike Cutoff	15,100	1,322	1,545
Lexington Road west of turnpike cutoff	7,900	819	979
Hanscom Drive north of Route 2A	6,600	547	651

*AWDT - average weekday traffic

The highest volumes in 1983 were observed on Marrett Road west of MA 128 indicating a high level of congestion in this segment. The traffic study concluded that Route 2A in Lexington and Lincoln faced congestion and safety problems at uncontrolled intersections. Vehicular drivers on side streets accessing Route 2A face intolerable delays during peak hour movements.

Traffic accidents were analyzed in 1980 and 1981 indicating that Route 2A recorded a fairly high number of accidents compared to other road segments in the traffic study area. The intersection of Marrett Street and Old Massachusetts Avenue was potentially the most hazardous intersection of those along Route 2A but about average compared to other road segments in the traffic study area.

Traffic counts recorded from January through March 1986 on Route 2A from east of Hanscom Drive to west of Brooks Road indicate very similar levels of traffic and congestion as the counts in 1983 ("A Proposal for a Planned Office Development Lincoln North," Cranberry Hill Associates, Lexington, Massachusetts). The 1983 counts in the Battle Road unit were recorded in July and August; winter traffic volumes may be lower due to seasonal variation.

Lexington Road from Route 2A to Meriam's Corner carries about 50 percent of the traffic that occurs on 2A near Hanscom Drive. Consequently, congestion and travel delay is lower. Some congestion and minor delay occur at Meriam's Corner at the intersection of Lexington Road and Old Bedford Road.

APPENDIX C: DESCRIPTION OF CULTURAL RESOURCES

Table of Contents

- I. Roads
- II. Landscape Features
 - A. Stone Walls
 - B. Commemorative Features
 - 1. British Soldiers' Grave
 - 2. Memorial Cedar Planting
 - C. Landscaping
 - 1. Terraces at The Wayside
 - 2. Formal Gardens at the Buttrick Estate
 - D. Pathways
 - 1. Path from The Wayside to Mill Brook
 - 2. Larch Path from The Wayside to Orchard House
 - 3. Path to the Top of the Hillside at The Wayside
 - E. Geographic Areas
 - 1. Fiske Hill
 - 2. The Bluff
 - 3. Bloody Angles
 - 4. Hardy's Hill
 - 5. Meriam's Corner
 - 6. Muster Field
- III. Buildings
 - A. Buildings Standing in 1775
 - B. Buildings Built after 1775
- IV. Archeological Sites
 - A. Seventeenth and Eighteenth Century Sites
 - B. Nineteenth Century Sites
 - C. Prehistoric Sites
- V. Museum Collections
 - A. Historical Collections
 - B. Archival Collections
 - C. Archeological Collections
- VI. Commemorative Monuments and Markers

I. ROADS

The Battle Road is the primary cultural resource at Minute Man National Historical Park. Called the Concord Road in the 18th century, it linked Concord, the first inland settlement in Massachusetts, with Cambridge, Boston, and the sea. Also important is the network of other roads that joined it, since minute and militia companies from outlying towns entered the action at these points along the route. While the stone walls, landscape features, and historic buildings help to "flesh out" the historic scene, the road itself will always remain the central element.

Documentary records indicate that the width and surface preparation of the Concord Road varied considerably from place to place along its route. Recent archeological investigations along Nelson Road provided important information about its surface in that area: there was a distinct applied top layer, made mostly of sandy soil with a small amount of clay mixed in. Fortunately, the excavation also exposed a sizable pothole that had been repaired by filling it with large boulders.

Documentary information about individual roads, below, will help explain the network of roads that pass through the park today. The dates included here are the earliest known to date; additional research will provide a more precise dating of some of these thoroughfares. For convenience the roads are identified by their modern names.

Old Massachusetts Avenue, Lexington (Concord Road) - by 1636; present alignment probably early 20th century. Most of the earlier alignment, likely that in 1775, is still visible.

Wood Street, Lexington - before 1775

New Massachusetts Avenue, Lexington - constructed in 1961

Marrett Road, Lexington - after 1830, by mid-20th century

Marrett Street, Lexington (Concord Road) - by 1636

Private driveway, west of Jacob Whittemore House, Lexington - before 1830

Airport Road, Lexington/Lincoln - built about 1946

Massachusetts Avenue, Lexington - 1802

Nelson Road, Lincoln (Concord Road) - by 1636

North Great Road, Lincoln (portion of Nelson Road) - 1802

Mill Street, Lincoln - before 1770

Road to Aaron Brooks House Foundation, Lincoln - before 1774

Bedford Road, Lincoln - by 1756

Bedford Lane, Lincoln - by 1756

Virginia Road, Lincoln (Concord Road) - by 1636

Old Bedford Road, Lincoln (Concord Road; portion south of Virginia Road) - by 1636

Old Bedford Road, Lincoln (portion north of Virginia Road) - 1721

Road to Bedford, east of Ephraim Hartwell Tavern, Lincoln - between 1831 and 1873, trace in 1943; no longer visible

North Great Road, Lincoln (portion south of Virginia and Old Bedford Roads) - 1803

North Great Road, Lincoln (Concord Road; portion west to the Concord line) - by 1636

Brooks Road, Lincoln - before 1735

Concord Turnpike Cutoff, Concord/Bypass Road, Lincoln - built in mid-1930s

Lexington Road, Concord (Concord Road) - by 1636

Shadyside Road, Concord - early 18th century

Road to Brick Kiln Island, Concord (north of Lexington Road between Farwell Jones and Olive Stow houses) - unknown

Farm road on Concord/Lincoln line (south of Lexington Road) - unknown

Manual Drive, Concord - built ca. 1960

Old Bedford Road, Concord - before 1775

Hawthorne Lane, Concord - by 1640

Monument Street, Concord (portion from center of town to the turn toward The North Bridge) - by 1654

Monument Street, Concord (portion between turn toward the bridge and Liberty Street, over the Flint Bridge) - built in 1793

Liberty Street, Concord (portion from Monument Street to intersection with Estabrook Road) - before 1754

Liberty Street, Concord (portion from Estabrook Road to Jonas Bateman property) - built in 1793

Liberty Street, Concord (portion from Jonas Bateman property to Lowell Road) - 1754

Estabrook Road, Concord-- before 1700

Road to Groton, Concord (portion from fork, west of The North Bridge, to the intersection at Liberty Street near the Willard and Ephraim Buttrick property) - before 1754; used discontinued in 1793

Road to Acton, Concord (portion from fork, west of The North Bridge, to intersection with Liberty Street by Jonas Bateman property) - before 1754; use discontinued in 1793

II. LANDSCAPE FEATURES

A. Stone Walls

Minute Man's cultural resources include about 25 miles of stone walls. Although the use of stone walls is well-documented, there are no precise methods of dating the walls in this area. Dry laid construction techniques provide no mortar samples, and the same stones may have been used to build and rebuild walls any number of times since settlement by Europeans.

Interpretation of the stone walls visible today requires consideration of their dating, location, and height. The dating and location may be determined through the corroboration of the documents by aerial photos (for the last 60 or 75 years), survey information and, occasionally, archeological evidence. It is not possible to determine the actual height of a wall at a point in the past, however.

We may never really be able to determine whether or not a specific wall dates from the 18th century. Even if there is good documentary or physical evidence for a particular wall having 18th-century origins we can never be certain precisely what it looked like.

Extensive documentary research on the land in the park, in conjunction with the ongoing archeological survey project, suggests a few places where stone walls may date to the late 18th century. Those places are the following:

David Fiske Property, Lexington - Historic records for this property provide extremely detailed acreage descriptions. Recent survey work, within the areas bounded by the present stone walls, corroborates these figures.

Daniel Brown Property, Lincoln - Documentation for this property provides detailed information. Analysis of this data, combined with extant walls, suggests that the east and west walls may well be original.

Samuel Hartwell Property, Lincoln - Stephen Davis's 1779 survey of the Hartwell property and nearby holdings along the north side of Virginia Road clearly illustrate stone walls. An extant wall on the east side of the Samuel Hartwell house foundation, approximately perpendicular to the road, seems to match the one in the 18th-century survey.

Joseph Mason Property, Lincoln - Documentary data in conjunction with Stephen Davis's 1779 map, described above, indicate that the extant walls west of the Joseph Mason house remains and the walls bordering Old Bedford Road were present in the 18th century. Particularly noteworthy is that these walls bound Mason's 6-acre pasture.

Jonas Bateman Property, Concord - Recent archeological investigations adjacent to the stone wall on the western boundary of Bateman's property suggest that it may have been constructed before the deposit of some of the older cultural material.

B. Commemorative Features

1. British Soldier's Grave

The grave marks the place where the remains of three British soldiers were buried. Tradition in Concord says that the site was investigated in the early 20th-century and that the remains of two complete and one partial skeleton, as well as several artifacts that identified the remains as British soldiers (buttons, etc.), were recovered.

2. Memorial Cedar Planting, Monument Street

One of the oldest memorials to the battle on April 19, 1775, is the double row of Arbor Vitae trees planted by the Town of Concord on April 19, 1825, the 50th anniversary of the fight. Located parallel to Monument Street, between the historic road to The North Bridge and the Flint Bridge, only a few remain.

C. Landscaping

1. Terraces at The Wayside

Bronson Alcott was anxious to produce food for his family and to create a bucolic setting during his years at the home he called Hillside (The Wayside was Nathaniel Hawthorne's name for the house). Alcott began the construction of 12 terraces on the hillside in 1845 and finished them in July 1847. They were planted with fruit trees and vegetables, with clover and timothy to provide grass on the slopes between the terraces. Records list apple and peach trees, as well as cucumbers and peas. Alcott's enthusiasm waned as he found himself unable to feed his family entirely from his own crops, however, and the terraces were eventually left to fend for themselves. Although no longer prominent, vestiges of them still remain.

2. Formal Gardens at the Buttrick Estate

Built in 1911, the Buttrick's new home included some formal plantings in the original design. The rectangular garden to the south of the house is visible in an early (pre-1913) plot plan of the property drawn by Framingham architect Charles H. Wheeler. The more elaborate gardens, including the river and bridge overlooks with their paths and plantings, evolved during the 1920s. A preliminary plan by Harold Hill Bloosom, dated 1923, is the first to indicate placement of these features.

D. Paths and Walkways

1. Path from The Wayside to Mill Brook

During the Alcott's occupancy of the house, their property extended on the south side of Lexington Road as far as Mill Brook. By the mid-1840s the family had worn a path from the house down to the brook, and Alcott built a gabled garden house, completed in 1847, to afford a summer retreat. During the 1860s, after Nathaniel Hawthorne had returned from his years abroad, he had the pathway planted with

evergreens to form a cathedral aisle to the water. A few pine and spruce trees still remain along this pathway.

2. Larch Path from The Wayside to Orchard House

Eager to facilitate communication and contact between his home and the adjoining Orchard House property owned by the Alcotts, Hawthorne created a larch path between the houses parallel to, and just north of, Lexington Road. Several larches remain but many are gone, victims of the hurricane in 1938. There is still a faint indication of the alignment of the larch path, however.

3. Path to the Top of the Hillside at The Wayside

Nathaniel Hawthorne spent long hours working and thinking on the top of the hillside behind his home. By 1860 he had created a pathway from the west side of the lawn to the top of the hill. One account records that it was bordered by locusts, but this information is inconclusive. The vague outline of the path is visible today, just west of the lawn.

E. Geographic Areas

1. Fiske Hill

Fiske Hill is the last site of fighting on The Battle Road within the park boundary. By the time the British column reached Fiske Hill they had been badly mauled and their ammunition was running short. If Earl Percy and the relief force had not arrived in Lexington at about the same time as the retreating forces, Smith's column would probably have been captured.

2. The Bluff

The Bluff is a rocky ridge on the north side of The Battle Road, where Marrett Street meets Old Massachusetts Avenue. The British were delayed here for some time until they could secure the ridge with flankers. Although the accounts do not say that the colonials held the Bluff, the implication is that they did, or at least that the British thought they did. The southern slope was blasted about 1938 to permit widening of the road.

3. Bloody Angles

Bloody Angles refers to the Old Bedford Road and Virginia Road section of The Battle Road in Lincoln. The term itself is a late 19th or early 20th century reference, rather than one contemporary to the fighting. The heaviest casualties in the park were inflicted on the British here: nine killed and several wounded. The Americans also suffered three killed, including the captain of the Bedford minutemen.

4. Hardy's Hill

Hardy's Hill was the site where several militia units from towns to the south joined the running fight along The Battle Road. These companies had been unable to reach The North Bridge because of the distance from Concord or the fact that the British held the South Bridge. The companies were waiting for the British as the fighting advanced from Meriam's Corner.

5. Meriam's Corner

The running fight, which was to continue 16 miles to Boston and be the point of no return, began at Meriam's Corner in Concord. Before the day ended the British would suffer 273 casualties and the Americans 95.

6. Muster Field

The Americans began their march to The North Bridge from the Muster Field. It was from here that the minutemen and militia saw smoke rising from the center of Concord and set out to protect their homes, and by so doing, set in motion events which would begin the Revolutionary War. Emerson's famous "Shot heard 'Round the World" refers to the brief engagement between the Americans advancing to protect their homes and the British assigned to hold The North Bridge.

III. BUILDINGS

The cultural resources at Minute Man National Historical Park include 27 buildings. Thirteen of these were standing at the time of the fighting on April 19, 1775; of the remainder half were built between 1776 and 1900 and the rest in the 20th century.

Comprehensive research and restoration projects have been completed on some of these structures; others have had only the most rudimentary research undertaken. In a broader context, however, these buildings and their associated grounds can tell us much more than architectural history. Most of the structures were located on farms which included one or more outbuildings. Some of these would have had permanent foundations and others would have been more temporary in nature, but each site has the potential for contributing significant social, economic, and ecological information recovered from the archeological resources through interdisciplinary research.

In the past most archeological investigation at Minute Man has been undertaken primarily to locate 18th-century house remains. As a result, the yards around most of the extant buildings have never been systematically excavated. These yards probably contain the remains of the household's domestic and agricultural activities including gardens, fences, wells, walkways, and perhaps privies. Although there have been a variety of disturbances to some of these sites, the houses and yards surrounding them should be considered an archeological resource as well as an architectural one.

A. Buildings Standing in 1775

1. Jacob Whittemore House - Marrett Street, Lexington

The five-bay structure with central chimney stack was built prior to 1745 and altered several times over the years by a lean-to, ca. 1844; a northeast porch, ca. 1955; and a northwest ell, built ca. 1961 and partially removed in 1986. The main entrance retains its Georgian appearance: two fluted Doric pilasters support a wide, heavily-moulded and dentiled entablature. The building was part of the historic scene of 1775 and later the home of John Muzzy, a member of the Lexington Militia Company. The documentary records list a barn, cornhouse, cider mill, and blacksmith shop on the property.

2. William Smith House - Virginia Road, Lincoln

Built after 1693, this house has undergone five major alterations and numerous minor alterations. Despite the removal of the lean-to, the removal of the central chimney and its replacement with two smaller chimneys, and the construction of several additions, the building retained its architectural significance and 18th-century character with its rare plaster-covered cornice. The National Park Service's restoration of the building, completed in 1985, included reconstruction of the central chimney stack and lean-to. The house was the home of William Smith, captain of the Lincoln Minute Man Company and brother of Abigail Adams. A portion of the grounds remain undisturbed.

3. Ephraim Hartwell Tavern - Virginia Road, Lincoln

When constructed ca. 1733 this was a two-story structure with a central chimney. Interior alterations, including the partitioning of the West Chamber, were made ca. 1756. The building functioned as a tavern between 1756 and 1787. A two-story gambrel appendage was added ca. 1783, and a shed ell about 1830, along with the rebuilding of the original kitchen lean-to. The building was remodeled on both the interior and exterior ca. 1900. In addition to the tavern's significance as part of the 1775 scene, the integrity of the building's unusual architectural configuration is also important. Despite disturbance to most portions of the yard, valuable archeological data may still exist in these areas.

4. Job Brooks House - North Great Road, Lincoln

The earliest known dwelling was removed from this site prior to 1666. Built in the last half of the 18th century, this two-story structure was extensively altered in the 19th century when its two-story bay windows and small chimney stacks were added. The National Park Service removed a rear ell in 1965 and covered the rear facade with tar paper; all that remains of the structure is an exterior shell. The house is an interesting example of the contrasting methods of 18th- and 19th-century domestic construction, however, and the documentary record mentions an 18th-century barn. The foundation of the 19th-century Hastings Barn is extant.

5. Samuel Brooks House - Lexington Road, Concord

Built in 1733, this five-bay, two-story house has a central chimney. An adjoining ell was rebuilt and enlarged after a fire in 1937; the chimney was rebuilt above the roofline and substantial interior remodeling was done at the same time.

6. Olive Stow House - Lexington Road, Concord

The first house on this site was removed between 1684 ad 1689; this house was built or replaced about 1760. The two-story structure has a broken scroll pediment over the front entry and a central chimney stack. In addition to its architectural features, there was at least one barn on the property and likely several other outbuildings as well.

7. Farwell Jones House - Lexington Road, Concord

This site was occupied by 1686 and probably earlier; the present structure was built before 1775 and extensively remodeled to its present appearance about 1870. There have been few alterations since that time. Documentary records indicate a number of other 18th-century outbuildings including a barn, lean-to shop, and workshop. Some of these structures may have been removed by 1775, however.

8. John Meriam House - Old Bedford Road at Lexington Road, Concord

This house, a five-bay, two-story structure with a central chimney stack, was built in two phases, ca. 1710 and ca. 1730, and has been altered little since. Some interior remodeling was completed in the

20th century, however, and the least private owners also rebuilt the rear shed. The scene of the start of the "running battle," many historians consider the John Meriam House and the action as Meriam's Corner the real "shot hear 'round the world." Documentary records indicate that a barn and a shop were located on the property.

9. The Wayside Barn - Lexington Road, Concord

This 18th-century barn was originally located on the south side of Lexington Road; Bronson Alcott moved it to its current location and probably shortened it in 1845. There were several fabric alterations between 1883 and 1932, but little has been done to it since that time. In its present location it is important to the interpretation of The Wayside and its 19th-century literary owners.

10. The Wayside - Lexington Road, Concord

Built about 1716-1717, this two-story, five-bay house remained largely unaltered until the mid-1840s when Bronson Alcott placed additions on the east and west ends and a central dormer on the main roof. Subsequent additions included a three-story tower on the rear and a second floor over the west wing (1860) and a piazza on the west facade (1887). The home of Samuel Whitney, Concord Muster Master in 1776, the house was later the home of Bronson Alcott and family, Nathaniel Hawthorne, then Daniel and Harriett Lothrop ("Margaret Sidney" to her readers). The house and barn were entered on the National Register on July 11, 1980.

11. Elisha Jones House - Monument Street, Concord

This house has little architectural integrity remaining from the pre-1775 period. A one-room dwelling built about 1650 and later additions about 1695 may have formed the nucleus of the present structure; it seems more likely, however, that the former was demolished and that the Elisha Jones House dates from the early 18th century. Little of that structure is apparent any longer, however, since it was extensively remodeled and rebuilt in 1865-66. The shed, also standing in 1775 but in a different location in relation to the house, was also rebuilt in 1865-66 and moved to its present location where a second story was added. The structure was accorded added significance in 1875, when an anecdote concerning a shot fired at Jones by a British soldier first appeared in Harper's Weekly; the story has since been disputed. The location of Jones's barn and blacksmith's shop are yet to be determined but the foundation of Keyes' 19th-century barn is extant.

12. The Old Manse - Monument Street, Concord

Built about 1770, this two-and-one-half story house as a gambrel roof with a center gable, two chimneys, and a sloping rear lean-to. The front entry is flanked by pilasters and topped with a simple pediment. It was home to the Reverend William Emerson, minister of the First Parish Church, in 1775, and later the home of Ralph Waldo Emerson and Nathaniel Hawthorne. One of the closest residences to the fighting at The North Bridge, the house is a very important part of the historic scene and one that changed little since that time.

13. John Buttrick House - Liberty Street, Concord

Built about 1715, this two-story, five-bay structure has a pedimented front entry porch. Alterations, including the raising of the roof in 1883, the rebuilding of a two-story ell on the northwest side about 1887, and considerable exterior and interior remodeling about 1937 (including addition of a porch on the northeast side and construction of a modern two-car garage), have changed its appearance from the time of the battle. Its place in the historic scene, however, and its association with Major John Buttrick, the officer who led the colonial forces into the skirmish at The North Bridge, make it an important resource. The 18th-century documentation mentions a barn with shed and a woodhouse, and the foundation of the 19th-century barn is extant.

B. Buildings Built After 1775

1. Hargrove Barn - Marrett Street, Lexington

This 19th-century barn, remodeled after the hurricane of 1938, was originally built on the south side of Massachusetts Avenue. It was moved to the west of the Jacob Whittemore House, to a site formerly occupied by another 19th-century barn, in 1978.

2. John Nelson House - Massachusetts Avenue, Lincoln

The Daniel Brown House (ca. 1700) may have been moved and incorporated into this house when it was constructed ca. 1810. Built on the central hall plan, it has a low-hipped roof, two offset chimneys, and a rear ell. A two-story addition was added on the west side at some point, probably in the first half of the 19th century. Many of the details, including the spiral and reeded courses in the cornice, the flat-arched headlight, and the simple pilasters of the doorway may have been taken by builder John Nelson from a handbook by Asher Benjamin. The house has exceptional architectural integrity.

3. John Nelson Barn - Massachusetts Avenue, Lincoln

This barn, probably built ca. 1810, was altered by additions to the north end about 1830 and 1900. It was partially rehabilitated by the National Park Service in 1978.

4. Samuel Hartwell House Foundation Shelter - Virginia Road, Lincoln

This shelter, constructed in 1986, protects the chimney and foundation of the Samuel Hartwell House. Originally constructed in the late 17th century, the house and foundation were expanded considerably in the late 18th century. The house, later used as a restaurant, burned down in 1968 but the chimney stack and foundation remained intact. Exposure to the elements caused deterioration, however, especially to the soft chimney bricks never intended for exterior exposure, and stabilization and repointing completed during the 1970s failed to hold. This "ghost" structure outlines the skeleton of the late 18th-century house and provides protection from water and snow.

5. McHugh Barn - Virginia Road, Lincoln

Originally constructed ca. 1830, the barn above the stone cellar walls was destroyed in the hurricane of 1938. The McHugh family,

then owners of the property, rebuilt it after the storm using the original stone foundation, walls, and timbers.

6. Joshua Brooks House - North Great Road, Lincoln

The house, built 1779-1781, is a two-story, five-bay structure with a central chimney and lean-to. Alterations appear to have been minimal, although a rear ell, connecting to a one-car garage, has been added. The Joshua Brooks House is a significant example of late 18-century domestic architecture and inventories list a number of outbuildings and features on the property. An unidentified foundation, perhaps of a 19th-century barn or stable, is visible at the rear of the property.

7. Noah Brooks Tavern - North Great Road, Lincoln

The Noah Brooks Tavern, built about 1810, is a two-story Federal house with a hip roof, two clapboard sides with rusticated quoins at the corners and brick ends, each of which has two chimneys. A 19th-century carriage house is attached to the kitchen ell. The building and grounds have considerable integrity.

8. Rogers Barn - North Great Road, Lincoln

This large barn, rebuilt following the hurricane of 1938, rests partially on the foundations of a 19th-century barn. Insurance receipts only covered the cost of a partial reconstruction, however, so Rogers chose to complete the portion of the barn closest to his fields: the northern part of the basement foundation, therefore, has a flat roof covering it but no structure above.

9. George Minot House - Lexington Road, Concord

This home, built about 1865, has been altered little since its construction. It sits on the site where an earlier Minot lived from 1765 until 1808, and a house may have been built on this parcel as early as 1639. The site has numerous outbuildings on it.

10. East Quarter Schoolhouse - Lexington Road, Concord

Built in 1853-54, the schoolhouse was constructed by the Town of Concord to serve students in District 2, the eastern portion of town. The architectural style of the building was similar, if not identical, to ones built elsewhere in the community at about this time, and has changed little except for the addition of the front porch. The outlying schools were all closed in 1887, and the building and land sold in 1893.

11. Daniel Taylor House - Lexington Road, Concord

This house, thought to have been built about 1810, was altered in the late 19th century when the central chimney was replaced with two smaller chimneys and a two-story kitchen ell was added to the rear of the structure. In addition to its architectural features, there are a barn foundation, another unidentified foundation on the property, and some documentary evidence about these outbuildings.

12. Buttrick Carriage House - Liberty Street, Concord

Built in 1911 as one of the original outbuildings to Stedman Buttrick's new home, this structure contained a squash court, stalls and tackle room, and garage space. The exterior remains unchanged, but the interior has been modified somewhat for administrative use.

13. Buttrick Caretaker's House - Liberty Street, Concord

Another of the 1911 outbuildings for the new Buttrick home, this structure remains unchanged since its construction. Its architectural style closely matches that of the Carriage House across the driveway from it.

14. Buttrick Mansion - Liberty Street, Concord

Stedman Buttrick had this home built in 1911, on his family land. The large two-and-one-half story brick structure, Georgian in style, faces the Concord River. The exterior remains unchanged, but the interior spaces have been modified for use as a visitor center and park offices.

IV. ARCHEOLOGICAL SITES

Previous archeological investigations at Minute Man National Historical Park have located a number of historic sites with 18th-century remains, as well as a few areas of prehistoric activity. The documentary evidence provides information about many more sites of historic occupation. The ongoing, five-year Minute Man archeological project will systematically examine selected areas of the park to locate and identify archeological remains at these and other historic and prehistoric sites before its completion in 1989.

The potential archeological resources associated with extant structures and their yards were mentioned in the section on buildings. The sites listed in this section are those for which no aboveground building is extant; in a few cases, however, a portion or all of the foundation is visible.

A. Seventeenth and Eighteenth Century Sites

Archeological excavations at the park have investigated 22 sites from this period. There is also one small foundation, not associated with an extant building, which has not been investigated. At some sites the buildings were abandoned prior to 1775, but in most instances they continued to be used during and after 1775. Documentary research has identified or suggested nearly two dozen other sites. Archeological investigation would be necessary to determine their existence and/or precisely locate them on the ground. Individual sites are labelled "L" (located) or "UNK" (unknown) in the descriptions that follow, and roads are identified by their modern names.

As with the description of the buildings, it is important to note that most historic archeological sites in the park were farms which included a house, barn, and one or more other outbuildings. This is particularly important to remember when assessing the potential for archeological resources beyond the immediate ranger of a cellar foundation. In the narrative that follows sites with documented activity are called "farm, tanyard, etc.," sites which seem to have included only a home will be labeled "house."

1. David Fiske Farm Site, Fiske Hill, Lexington (L)

This property was settled ca. 1655 and probably abandoned in 1721. Excavations have revealed two 17th-century cellars, a well, and other significant features and may provide evidence of early land clearance practices. It is one of very few rural sites from this period in eastern Massachusetts, and provides a relatively undisturbed context for analysis.

2. Ebenezer Fiske Farm Site, Fiske Hill, Lexington (L)

Ebenezer Fiske lived in the house until his death in 1775; his inventory provides one of the most detailed contemporary descriptions of a house, barn, and other outbuildings. His house was removed in 1852 and another house erected on the foundation; that structure was torn down in 1950s but the foundation remains extant.

3. Bull Tavern Site, Marrett Street, Lexington (UNK)

A tavern and adjoining farmland were likely occupied by John Muzzy in 1775. A previous attempt to locate remains of the structure was unsuccessful, although archeologists and historians are fairly confident that they know its approximate location. Documentary evidence of a late 17th-century/early 18th-century house and barn on this property also exists.

4. Tabitha Nelson (Thomas Nelson, Sr.) Farm Site, Nelson Road, Lincoln (L)

Previous archeological work located possible evidence of the house, although the construction of Airport Road and installation of utility corridors into Hanscom Air Force Base disturbed much of the structure. Additional archeological investigation may locate other features.

5. Thomas Nelson, Jr. Farm Site, Nelson Road, Lincoln (L)

The mid-18th century house, later enlarged, was removed in 1895 when a new structure was built on the old foundation. The foundation is visible, but its integrity has been compromised by the subsequent construction. Foundations of the 18th-century barn and other outbuildings and features outside the area of disturbance could yield additional information.

6. Christopher Mudgeon House Site, Nelson Road, Lincoln (UNK)

This 1730s house may have been built at or near the location of the Thomas Nelson, Jr. House, or on land nearby. The documentary record is unclear: this house's foundation may have been used for Thomas's house. It remains uncertain, therefore, whether or not this is a distinctly separate site. If a separate house site exists, this site is particularly significant since it may not have post-1750 disturbances.

7. Josiah Nelson Farm Site, Nelson Road, Lincoln (L)

This property, developed by 1761, included a three-bay house with a central chimney, two outbuildings, a stone-lined well, two refuse areas, and a barn, several of which have been excavated. The extant foundation and other units provide valuable information on the use of space on 18th- and 19th-century farms.

8. Daniel Brown House and Shop site, Nelson Road, Lincoln (L)

Brown's house, built by 1722 and probably abandoned by 1762, was a two-story structure with a half cellar. It and a second structure, perhaps a shop of some sort, have been excavated, as have a well and materials that provide information about various yard activities. The foundation for the barn, located on the south side of the street, has never been found. The site is particularly valuable because it has not been subjected to 19th- and 20th-century disturbances.

9. Unidentified Foundation, South Side of Nelson Road, Lincoln (L)

George Nelson's 1902 sketch of Nelson Road identifies this visible foundation as Josiah Nelson's hop house, but there has never been any archeological investigation to document this usage.

10. Nathaniel Whittemore Farm Site, North Great Road, Lincoln (UNK)

It is unclear whether Whittemore's mid-18th century residence in Lincoln was a separate building or whether he lived in the house built earlier by Daniel Brown. Archeological investigations might determine the presence or absence of a house.

11. Jacob Foster Farm Site, North Great Road, Lincoln (UNK)

In 1775 Foster was a tenant on a farm west of Whittemore's property. The documentary record suggests that this property may have included a small house and barn; it was probably either the mid-18th century home of Ebenezer Lamson, Sr., or that of his son, Timothy, who lived slightly to the east. Another mid-18th century house may also exist on the site.

12. Phineas Allen Farm Site, North Great Road, Lincoln (UNK)

Allen was a landless farmer, a tenant on Lincoln property in 1775. It is not clear whether he lived in the mid-century house of Ebenezer Lamson, Sr., however, or whether he was a hired man living in the home of William Smith.

13. Samuel Hartwell Farm Site, Virginia Road, Lincoln (L)

Built possibly by 1693, the house was altered and remodeled in the 19th century and a west end addition constructed in the early 20th century. It burned in 1968 but its massive chimney and foundation walls are extant. Although portions of the grounds have been excavated, further investigation may reveal the precise location of a blacksmith shop, barn, and other features.

14. Joseph Mason Farm Site, Virginia Road, Lincoln (L)

In 1775 this property included a house and barn; the former has been partially excavated. The barn and 1760s school on Mason's property has yet to be located.

15. Joshua Brooks Tanyard Site, North Great Road, Lincoln (UNK)

The tanyard was operating by 1725, and possibly as early as 1645. In 1745 there was a tan house and vats; other buildings, including a currier shop, were added by 1791 and a bark mill may have been erected shortly thereafter. The lot was empty of buildings by 1852. Architectural and archeological remains and features might provide information about colonial tanning practices and some information about commercial activities in general.

16. Joshua Brooks House Site, North Great Road, Lincoln (UNK)

This two-story wooden structure with its central chimney and integral lean-to was built about 1713 and destroyed about 1900. Although it has not been located, photographs exist that show it and the extant, ca. 1781, Joshua Brooks House.

17. Thomas Brooks House Site, North Great Road, Lincoln (UNK)

Built by Thomas Brooks ca. 1713, the house was abandoned and removed by 1812. Although there is no description in the documentary record, its location east of the present day Noah Brooks Tavern seems clear.

18. Abel Brooks Farm Site, Lexington Road, Concord (UNK)

His was the second of three houses on the site; the 17th-century house was removed by 1772; Abel's was built about 1788 and removed in 1880, and it was followed by a 19th-century structure. A barn and shop are listed in Abel's inventory and a later, 19th-century resident enumerated more barns, stables, and an overseer's house.

19. Abner Wheeler Farm Site, Lexington Road, Concord (UNK)

Deeds do not show Wheeler as a landholder here in 1775, even though he is clearly in residence. It is hypothesized that he and his family rented the house, barn, and property of the late Jacob Taylor.

20. Samuel Fletcher Farm Site, Lexington Road, Concord (UNK)

Fletcher's widow, Rebecca, lived on the farm in 1775; the house, bequeathed to her husband in 1694, was likely quite old. The barn was near the house across the road on the south.

21. Nathan Stow Farm Site, Lexington Road, Concord (UNK)

In 1775 Stow seems to have had a dwelling house and a small farm, west of George Minot and east of Keturah Durant. He probably moved soon thereafter, and no precise information exists about his 1775 residence.

22. Keturah Durant House Site, Lexington Road, Concord (UNK)

A widow and shopkeeper, Durant lived in a modest house in 1775. There are no records of a separate shop or barn. By 1798 Ebenezer Hardy had purchased a share in the land and built his own house on a portion of it.

23. Mary Burdeen House and Shop Site, Lexington Road, Concord (UNK)

A seamstress, Burdeen owned a house with an adjoining shop. Her barn was on land she owned on the south side of Concord Road, west of her home.

24. Unidentified House Site, Lexington Road, Concord (L)

The present appearance of the site is a depression, like that caused by a filled cellar hole. No identification has been suggested.

25. Eliphelet Fox House Site, Lexington Road, Concord (L)

This house, previously known by the misnomer "Casey's House," was built by 1666 and abandoned by 1852. Documentary evidence is clear, however, that it was never owned by Casey, an ex-slave, and it is even unlikely that he ever resided there. Although the archeological resources recovered to date do not reveal any data to suggest Casey's occupation, the faunal and ceramic subassemblages are important in the study of 17th- and 18th-century culture, and there is potential for further archeological investigation.

26. George Minot House Site, Lexington Road, Concord (L)

The frame of the house, built in 1720, was moved to this site and completed in 1797 although it lost its original chimney in the process. The building was later moved to Concord Center and torn down about 1898.

27. John Flint Farm Site, Monument Street, Concord (L)

The first Flint house, built after 1635, was demolished in 1880. In 1775 it included the house, a barn, and a separate shop. A 19th-century home may have been built on the same or a different foundation; it is not clear whether or not its construction impacted the earlier site. The second house was moved across the street in 1924. Archeological investigations to date have located archeological remains; further excavation would be necessary to understand them.

28. David Brown Farm Site, Liberty Street, Concord (L)

The original house on the site was built prior to 1644; David Brown built a home nearby sometime between 1755 and 1768. There were also two barns on his property, but they were probably not located on park property. Archeological investigations of the site have located other features on the property, but their identification is not yet clear.

29. Ephraim Buttrick Farm Site, Liberty Street, Concord (L)

This house was built ca. 1697-1700, and demolished in 1814. Archeological investigations have identified two foundations in front of the 1911 Buttrick Mansion: it is possible that they are from a house with an eastern addition or attached outbuilding. If the remains are of a single home, additional archeological investigation is needed to determine whether it is Ephraim's or Willard's.

30. Willard Buttrick Farm Site, Liberty Street, Concord (L)

This house was built in the early 1770s and demolished in 1849. Archeological investigations have identified two foundations in front of the 1911 Buttrick Mansion: it is possible that they are from a house with an eastern addition or attached outbuilding. If the remains are of a single home, additional archeological investigation is needed to determine whether it is Willard's or Ephraim's.

31. Jonas Bateman Farm Site, Liberty Street, Concord (UNK)

There was a dwelling on the Bateman property as early as 1729; it is not clear whether or not this was the home which Jonas Bateman lived in in 1775. His farm also included a large and a small barn and a malt shop. All were probably located north of Liberty Street, off park property. Archeological investigations have located possible evidence of the road and two possible trash pits.

B. Nineteenth Century Sites

Although the communities of Lexington, Lincoln, and Concord retained their rural character throughout the 19th century, there were a number of structures built on land which is now part of the park. The sites identified to date are described below.

1. Bashian Barn Site, Fiske Hill, Lexington (L)

The Bashians, 19th-century owners of the Ebenezer Fiske property, constructed a large barn about 1875. Its foundation is extant, cut the hillside west of the house foundation.

2. North School Site, North Great Road, Lincoln (UNK)

A brick schoolhouse was built in 1816, on the southwest corner of North Great road and Bedford Lane. After a number of years it fell into great disrepair and a new school was built in 1859. The latter school, also on North Great Road, may have been built on the same site or at a different location. It was used intermittently until 1896.

3. Alfred Brooks House Site, North Great Road, Lincoln (UNK)

This house was built about 1827, east of the Job Brooks House and west of the Lincoln-Concord line. Little information is available about it.

4. George Clark House Site, Lexington Road, Concord (UNK)

The 1898 highway map of Concord shows this house, with a front porch and rear ell, across the street from the Daniel Taylor House.

5. Simmons House Site, Monument Street, Concord (L)

The 1852 map of Concord shows this two-story house with rear ell. It was purchased by the National Park Service in 1967 and subsequently removed.

6. Stedman Buttrick Farm Site, Liberty Street, Concord (L)

Buttrick's house, built in 1850, was sited perpendicular to Liberty Street overlooking the hillside and the Concord River. The property included at least three outbuildings, but much of the site was destroyed during the construction of the 1911 Buttrick Mansion and its facilities. The foundation of the house itself was removed to allow archeologists to reach the 18th-century Buttrick house foundations beneath it.

7. Battle Lawn, Liberty Street, Concord (L)

Edwin S. Barrett built a Victorian mansion on the hillside, beneath the Stedman Buttrick Farm, in 1879. It had outbuildings and a large gardener's house. It was removed about the time of the first world war.

C. Prehistoric Sites

The Concord River Basin was the site of considerable prehistoric activity. Artifacts gathered by local collectors, as well as those excavated during formal archeological investigations, provide some information about the location of such activities on park land. The parkwide Minute Man archeological project will expand upon the current baseline data when it conducts prehistoric sampling during the summer of 1989. The sites identified to date are as follows:

Lincoln, north of Virginia Road - Possible Woodland. Pottery; bifaces; stone tool manufacture.

19-MD-119: Lincoln, north of North Great Road - Late archaic; early Woodland; late Woodland. Stone tool manufacture; large stone artifacts; small edge tools.

19-MD-102: West of Monument Street - Flakes; bifaces (not diagnostic); stone tool manufacture.

19-MD-487: North Bridge Area - Late archaic; late Woodland.
North Bridge Area - Bifaces; points; stone tool manufacture.
North Bridge Area - Late archaic; late archaic-early Woodland; possible middle Woodland. Stone tool manufacture.

19-MD-90: North Bridge Area - Late archaic-early Woodland.

19-MD-91: North Bridge Area - Middle archaic; late archaic; possible early Woodland; middle Woodland; late Woodland. Prehistoric stone tool manufacture; historic gunflints.

V. MUSEUM COLLECTIONS

A. Historical Collections

The historical collections at Minute Man include original furnishings, commemorative items, miscellaneous papers and manuscripts, book illustrations and photographs, and postcards. There are also representative architectural items.

The bulk of the collection, several thousand items, comprises the original furnishings from The Wayside dating from the Lothrop occupancy (1883-1965). Although most of these items pre-date the death of Harriett M. Lothrop in 1924, and are on permanent installation in the house, a few postdate this time period and are in storage.

Commemorative items, especially those associated with the Minute Man Statue and The North Bridge, comprise a collection of several dozen items at the present time. This groups will undoubtedly grow, however, as additional items become available or are donated to the park. Specific commemorative pieces may be sought in conjunction with the new visitor center exhibits being planned by the design staff at the Harpers Ferry Center.

There are small groupings of personal papers and manuscripts in the historical collections. Most prominent are items associated with the Ephraim Hartwell Family and their descendants. The collection also includes original artwork from some of the Margaret Sidney (Harriett Lothrop) books, including drawings by Childe Hassam and Hermann Heyer. The park monuments and buildings are documented in the collection of 19th- and early 20-century photographs and postcards that number about 1,300.

There are fewer than a dozen 18th-century objects associated with April 19 or military activities. This collection may also increase in conjunction with the visitor center exhibits currently being planned.

Restoration and preservation work in the park has created an architectural collection. It includes samples of wallpaper, paint colors and woodwork, plaster, mortar, hardware, and exterior fixtures. Most are from The Wayside, Ephraim Hartwell Tavern, and William Smith House, although some are from park buildings that have not been fully restored to date. There are also some original items, including doors and windows, from park buildings. More recent elements added to the park's historic buildings over the centuries have also been retained.

The present historical collections will not be affected by the GMP proposal. The specifics of the expanded interpretive program, however, may require the addition of more objects to these collections. Such decisions will be reached in design concept plans and the forthcoming, updated interpretive prospectus.

B. Archival Collections

The Minute Man museum collections include two distinct archival collections: the Harriett M. Lothrop Family Papers and the Allen French Research Papers. The first has been fully processed. Inventoried and cataloged; processing of the second will be completed during 1988.

The Harriett M. Lothrop Family Papers, numbering about 11,000 items, includes manuscripts, correspondence, newspaper and magazine clippings, pamphlets, and assorted memorabilia assembled by Mrs. Lothrop and her daughter, Margaret, during the family's residence at The Wayside from 1883 until 1965. It includes a wealth of material related to 19th century literary, social, political, and preservation activities.

The Allen French Research Papers include his notes accumulated over years of study of the events leading up to the start of the Revolutionary War, with particular emphasis on the 19th of April 1775. The materials may prove useful for future scholarly inquiry.

C. Archeological Collections

Minute Man archeological collections include artifacts and other specimens as well as some records (field notes and catalogs, journals, drawings, maps, photographs and other types of documentation). The bulk of the collection is from excavations completed during the 1960s and 1970s; some materials were excavated more recently.

The Minute Man Archeological Collection Management Project, completed in 1987, reassessed and reclassified artifacts from some 20 previous excavations. These collections, numbering more than 120,000 items, include some important 17th-century materials, a wealth of 18th- and 19th-century materials and minuscule representations of prehistoric and contemporary materials. Very little documentation exists to supplement these early collections of artifacts.

Excavations from the 1980s, including a number of excavations for 106 compliance and the early work on the parkwide Minute Man archeological project, have already unearthed at least 25,000 additional artifacts and specimens. There is detailed documentary material associated with each of these excavations. These collections are more representative of the full range of occupation of park lands, and include prehistoric artifacts as well as 17th-20th century collections of materials.

VI. COMMEMORATIVE MONUMENTS AND MARKERS

Numerous commemorative features have been added to the landscape since the fighting at The North Bridge in 1775, including several reconstructions of the bridge itself. Many of them in or adjacent to park-owned land, and help to interpret the park themes. The features, unless otherwise noted, are owned by the park.

A. Hayward Well Monument

A granite marker, surrounded by stones and boulders, purports to mark the spot where James Hayward of Acton and a British soldier stopped to drink and, spying the enemy, mortally wounded each other. Archeological investigations fail to support the conclusion that the correct well is marked, however. The marker was erected by the Lexington Historical Society in 1885 and donated to the park by the society in 1965.

B. Bluff Monument

A granite marker, mounted on the face of the Bluff at the intersection of Old Massachusetts Avenue, Marrett Road, and Marrett Street, describes the British use of the Bluff as a rallying point.

C. Paul Revere Capture Plaque

This bronze tablet, mounted in a large boulder, describes Revere's capture, the successful escape of Dawes and Prescott, and Revere's subsequent release. It was erected prior to 1902.

D. Meriam's Corner Monument

A granite marker, erected in the stone wall at the corner, describes the Americans' attack on the British as they retreated from The North Bridge. The Town of Concord purchased the land from the owner of the John Meriam House and erected the monument. It is still owned by the town.

E. Hawthorne Centennial Plaque

This bronze tablet, mounted in a boulder, was placed along the larch path on July 4, 1904, at the exercises celebrating the centennial of Nathaniel Hawthorne's birth. Harriett M. Lothrop, noted children's author and preservationist, organized the exercises.

F. Concord Fight Plaque

A bronze tablet, mounted in a stone on the north side of the walkway leading to The North Bridge, describes the action that occurred there on April 19, 1775. The text was written by Allen French, noted Concord author and historian. The tablet is on town land administered by the National Park Service.

G. British Soldiers' Grave Monument

A slate plaque, mounted in the stone wall on the south side of the walkway leading to The North Bridge, commemorates the two British soldiers who died at the fight. It is inscribed with four lines of the epic poem "Lines" by James Russell Lowell. The grave is located on town land administered by the National Park Service.

H. Battle Monument

This granite obelisk was erected in 1836 and dedicated July 4, 1837. Ralph Waldo Emerson wrote his famous "Concord Hymn" ("By the rude bridge which arched the flood . . .") to be sung at the dedication. A marble tablet, mounted on the east facade of the obelisk, relates the events of the fighting. The monument is on town land administered by the National Park Service.

I. The North Bridge

The present bridge was built in 1956, on the original site, and may resemble the original more closely than any of the earlier reconstructions. It may have been built on the original abutements but is higher above the water than was its 18th-century predecessor since the land at the west end of the bridge had to be raised about 5 feet in 1875 to create a viewing area for the Minute Man Statue.

The bridge which spanned the Concord River in this location in 1775 was removed in 1793 when a number of roads in the western portion of the town were realigned. The first reconstruction, at the time of the centennial, had a number of Victorian decorative features and was severely damaged in a flood in 1888. It was replaced with a sturdier structure which lasted for 20 years. When that bridge was severely damaged in 1908, it was replaced with a concrete structure which lasted until the flooding which followed Hurricane Diane in 1955. The bridge is owned by the Town of Concord and administered by the National Park Service.

J. Minute Man Statue

Daniel Chester French, a local artist, was commissioned to create a bronze statue of a minute man for the centennial of the fight at the bridge. The minute man, with his musket in one hand and his other hand on his coat and plow, represented the embattled New England farmer. The statue was cast at the Ames Foundry in Chicopee, Massachusetts, and mounted on a base of granite from Westford. The statue is owned by the Town of Concord and administered by the National Park Service.

The erection of the Battle Monument at the east end of the bridge had always concerned Concordians because that was the end at which the British had stood. Stedman Buttrick, grandson of Major John Buttrick, donated $\frac{1}{4}$ acre of land at the west side where the old bridge had stood on the condition that the town rebuild it to allow access to the statue from the east.

K. DAR Plaque

An aluminum tablet, mounted in stone, was placed at the west end of the statue area to commemorate the sacrifice of Captain Isaac Davis of Acton who lost his life in the fighting. The Daughters of the American Revolution donated the plaque in April 1975.

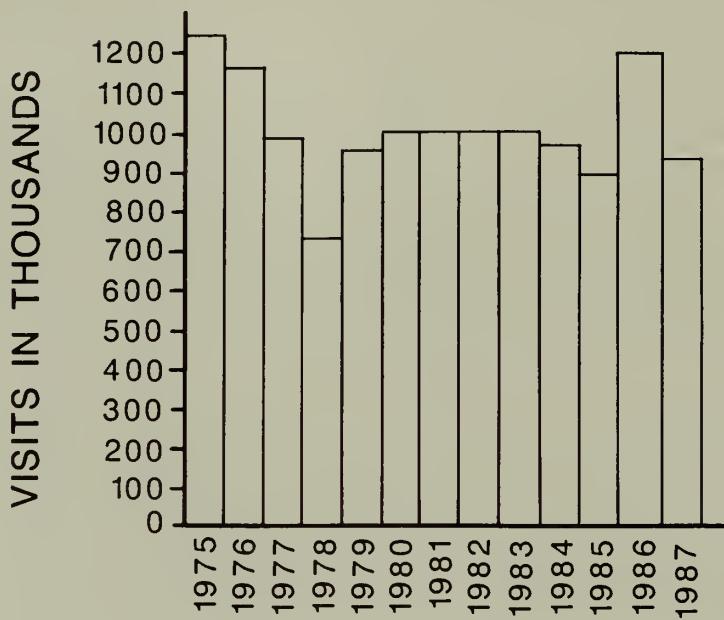
L. Muster Field Monument

A granite marker, embedded in the stone wall on the west side of Liberty Street by the muster field, identifies it as the field where the minutemen and militia formed before marching down to The North Bridge.

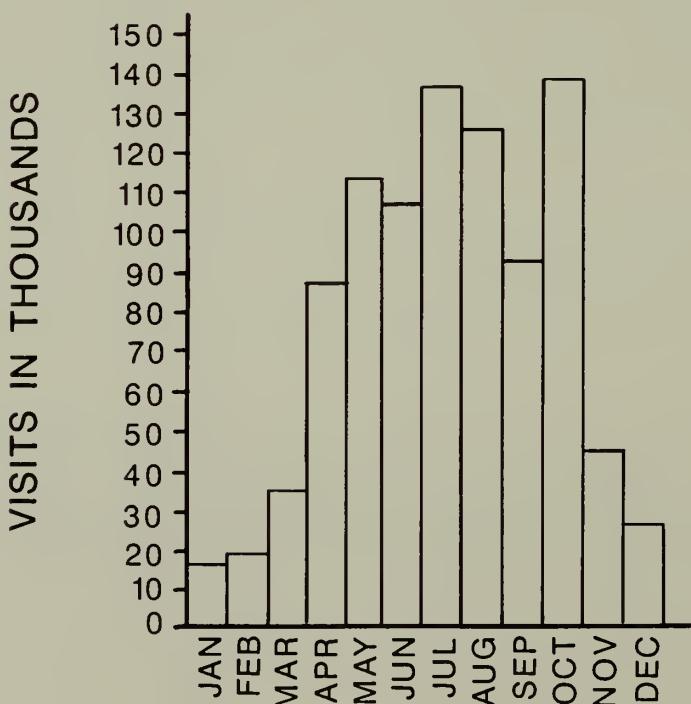
M. John Buttrick Bas-relief Monument

A bronze bas-relief of Major John Buttrick is located on the stone wall on the east side of Liberty Street, near the North Bridge Visitor Center parking lot. E.T. Quinn, a sculptor in Daniel Chester French's studio, created the piece in 1915. It is mounted on an inscribed granite monument which identifies Buttrick's contributions, as well as the donation of the memorial to the town from the estate of George Edward Messer. The relief is owned by the Town of Concord.

MINUTE MAN NATIONAL HISTORICAL PARK
YEARLY VISITS 1975-1987



MONTHLY VISITS 1987



VISITOR CARRYING CAPACITY

<u>Parking Lots and Pulloffs</u>	<u>Total Parking Spaces</u>	
	<u>Car</u>	<u>Bus</u>
North Bridge Visitor Center	44	4
North Bridge Parking (town lot)	58	4
North Bridge Overflow Parking	65	
Fiske Hill Parking Area	22	
Battle Road Visitor Center	32	12
The Wayside Parking Area	28	
Smith House	15	
Paul Revere Capture Site	8	
Hartwell Tavern	15	
Fiske Hill Pulloff	10	
Total Spaces	293	20
Park multipliers (as determined by visitor survey)		
Visitors/car	3.4	
Visitors/bus		35
Total Visitors	996	700
Approximate total instantaneous vehicular carrying capacity		
	1,700	

APPENDIX E: CLASSIFICATION OF PARK ROADS

The classification of park roads is based on the functional classification system described in the NPS "Park Road Standards" (1984). Each park segment has been classified, according to its intended use or function, as a public use road or an administrative road.

PUBLIC USE ROADS

All roads that are intended principally for the use of visitors for access to and within the park are classified as public use roads. These roads are defined in the NPS standards and subdivided into the following four classes:

Class I: Principal Road/Rural Parkway--This road class includes main access routes, circulatory tour routes, or thoroughfares for visitors. (There are no Class I park roads in the park.)

Class II: Connector Road--Connector roads provide access to areas of scenic, scientific, recreational, or cultural interest.

Class III: Special Purpose Road--Special purpose roads provide circulation within public use areas, such as campgrounds, picnic areas, visitor center complexes, and historic sites. They generally serve low-speed traffic and are often designed for one-way circulation.

Class IV: Primitive Road--Primitive roads provide circulation through remote areas and/or access to primitive campgrounds and undeveloped areas. They frequently have no minimum design standards, and their use may be limited to specially equipped vehicles.

ADMINISTRATIVE ROADS

The administrative road category consists of all public and nonpublic roads intended principally for administrative uses. Administrative roads are subdivided into two classes:

Class V: Administrative Access Road--This class includes all public roads intended for access to administrative developments or structures, such as offices, employee quarters, or utility areas.

Class VI: Restricted Road--Restricted roads are normally closed to the public. They include patrol roads, fire roads, truck trails, and other similar roads.

Access to Minute Man National Historical Park is provided by town roads and state and federal highways. Park roads consist mainly of internal circulation roads to parking areas, administrative facilities, and historical structures.

There are no park roads in the Class I category. The only Class II road is the access road from Airport Road to the Battle Road Visitor Center. The remaining roads are Class III (internal public use circulation roads) and Classes V and VI (administrative roads). The Road Classification table shows each road's functional classification and other pertinent information.

ROAD CLASSIFICATION TABLE
MINUTE MAN NATIONAL HISTORICAL PARK

Route Number	Road Segment From/To	Functional Classification	ADT ¹	Length Miles	Width Feet	No. Lanes	Surf. ² Type
010	North Bridge Visitor Center Parking area from Liberty St. West to Liberty St. East	III	75	0.093	21	1	A
011	North Bridge Parking Area from Monument St. South to Monument St. North	III	325	0.170	26	1	A
012	Wayside House Parking off Hawthorne Ln.	III	15	0.060	21	1	A
013	Battle Road Visitor Center Parking Area from Airport Road to end of Loop	II	50	0.296	18	2	A
014	Fiske Hill Parking Area from Old Mass Ave. to Marrett Road	III	120	0.62	20	2	A
015	Revere capture site off North Great Road	III	12	0.030	25	1	G
016	Nelson Road from Battle Road Visitor Center Parking Area to Rt. 2A				FOOTPATH		
200	Old Battle Road off Mass Ave.				FOOTPATH		
201	Sargent Property Overflow Parking Area from Monument Street to end			10	0.040 FIELD	1	D
400	Loop at North Bridge Visitor Center from North Bridge Visitor Area Parking Area to end of Loop				FOOTPATH		
401	North Bridge Visitor Center Service Road from Liberty Street to end	V		10	0.111	15	1 A
402	Service Road to Maintenance Barn at Visitor Center off Liberty Street	V		10	0.026	12	1
A							
403	Service Road to North Bridge from Liberty Street to Bridge				FOOTPATH		

404	John Buttrick House Road from Liberty Street to Barnes Field Road	V	10	0.055	14	1	A
405	Bullet Hole House Driveway off Monument Street	V	10	0.035	10	1	A
406	Drive to Barn at Wayside from Lexington Road to Barn				FOOTPATH		
407	Joshua Brooks House Drive from North Great Road to House	V	10	0.055	13	1	A
408	Hartwell Tavern Service Road off Virginia Road	V	10	0.062	11		G
409	Sam Brooks House Driveway off North Great Road	V	10	0.024	13	1	A
410	Access to Maintenance Shop from North Great Road to Maintenance Area	V	10	0.029	10	1	A
410	Access to Maintenance Shop from North Great Road to Maintenance Area	V	10	0.024	10	1	G
411	Captain William Smith House Service Road from Virginia Road to House	VI	10	0.067	15	1	G
412	Wittmore House Driveway off Marrett Street	V	10	0.022	20	1	A
413	Service Road at Battle Road Visitor Center from Airport Road to end	V	10	0.049	18	1	T
414	Bierlich House Driveway from North Great Road to House	V	10	0.033	11	1	A
416	Service Road to North Bridge from Monument Street to Bridge				FOOTPATH		
417	Daniel Taylor House Driveway from Lexington Road to end	V	10	0.019	13	1	G
418	Buttrick Hillside Service Road from Liberty Street to end of Loop	VI	10	0.065	15	1	G
419	Muster Field Service Road from Liberty Street to end	III	10	0.066	10	1	D
420	Bedford Lane from North Great Road to Gate	V	10	0.028	15	1	G

¹ADT average daily traffic for high six months

²A-bituminous concrete, G-gravel, D-dirt, T-surface treatment

APPENDIX F: LEGISLATION

Public Law 86-321

September 21, 1959

7. Minute Man National Historical Park

	Page
Establishment of park authorized.....	Act of September 21, 1959 219

An Act To provide for the establishment of Minute Man National Historical Park in Massachusetts, and for other purposes, approved September 21, 1959 (73 Stat. 590)

Whereas the outbreak of the War of the American Revolution was essential and prerequisite to the achievement of American independence and the creation of a Federal Government; and

Whereas the events relating to the beginning of Revolutionary hostilities on the 18th and 19th of April 1775, and associated with Paul Revere, the Minute Men, and the British are of great importance in American history; and

Whereas a number of historic properties, buildings, sites, and objects in Boston, Massachusetts, and the vicinity, thereof, including the road and roadsites between Lexington and Concord, are intimately connected with the events that opened the war, and consequently, merit preservation and interpretation in the public interest as prime examples of the Nation's historical heritage: Therefore

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in order to preserve for the benefit of the American people certain historic structures and properties of outstanding national significance associated with the opening of the War of the American Revolution, Minute Man National Historical Park is hereby authorized to be established in the Commonwealth of Massachusetts.

Minute Man
National His-
torical Park.
Establishment.

The park shall comprise not more than seven hundred and fifty acres as may be designated by the Secretary of the Interior from within the area beginning at Fiske Hill and thence lying along Massachusetts Avenue, Marrett Road and Marrett Street in the town of Lexington, along Nelson Road, Virginia Road, Old Bedford Road, and North Great Road or State Route 2-A in the town of Lincoln, and along Lexington Road, Monument Street, Liberty Street and Lowell Road in the town of Concord to and including the North Bridge and properties on both sides of the Concord River in the vicinity of the North Bridge. (16 U.S.C. § 410s [Supp. II].)

Sec. 2. The Secretary of the Interior is authorized to acquire by donation or with donated funds, or with funds

Acquisition
of land.

219

hereby authorized to be appropriated, lands and interests in lands within the area designated for the park. Administrative jurisdiction of Federal lands lying within the area designated for the park shall, with the concurrence of the Federal agency involved, be transferred to the Secretary of the Interior for administration as a part of the park.

Notice in F.R.

The park shall be established as Minute Man National Historical Park by notice in the Federal Register when the Secretary of the Interior finds that sufficient lands within the designated area have been acquired to warrant such establishment. (16 U.S.C. § 410t [Supp. II].)

Preservation of historic sites.

SEC. 3. To provide further for the preservation and interpretation of historic sites, structures, and properties lying along the entire route or routes where significant events occurred on the 18th and 19th of April 1775, in the cities of Boston, Cambridge, Medford, and Somerville, and the towns of Arlington, Brookline, Concord, Lexington, and Lincoln, including the area generally described in section 1 as lying between Fiske Hill and the North Bridge, the Secretary of the Interior is authorized, in accordance with the purposes of this Act, to enter into cooperative agreements with the Commonwealth of Massachusetts, political subdivisions thereof, corporations, associations, or individuals, and to erect and maintain tablets or markers, in accordance with provisions contained in the Act approved August 21, 1935, entitled "An Act to provide for the preservation of historic American sites, buildings, objects, and antiquities of national significance, and for other purposes" (49 Stat. 666). (16 U.S.C. § 410u [Supp. II].)

16 U.S.C. 461-468e.

Advisory commission.

SEC. 4. The Secretary of the Interior is authorized to appoint an advisory commission of five members to advise him on the development of Minute Man National Historical Park, to consist of one member to be recommended by the selectmen of each of the towns of Concord, Lexington, and Lincoln, Massachusetts; one member to be recommended by the Governor of the Commonwealth of Massachusetts; and one member to be designated by the Secretary. (16 U.S.C. § 410v [Supp. II].)

Administration.

SEC. 5. When established pursuant to this Act, the park shall be administered, protected, and developed by the Secretary of the Interior in accordance with the provisions of the Act of August 25, 1916 (39 Stat. 535; 16 U.S.C. 1-4), as amended and supplemented, and the Historic Sites Act of August 21, 1935 (49 Stat. 666; U.S.C. 461-467). (16 U.S.C. § 410w [Supp. II].)

Appropriation.

SEC. 6. There are hereby authorized to be appropriated such sums, but not more than \$8,000,000, as may be needed for the acquisition of lands and interests in lands

and for development of the Minute Man National Historical Park, of which not more than \$5,000,000 shall be used for acquisition purposes, and in addition thereto, such sums as may be needed for its administration and maintenance. (16 U.S.C. § 410x [Supp. II].)

6. Minute Man

An Act to amend the Act of September 21, 1959 (73 Stat. 590), to authorize the Secretary of the Interior to revise the boundaries of Minute Man National Historical Park, and for other purposes. (84 Stat. 1436)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled. That section 1 of the Act of September 21, 1959 (73 Stat. 590) is amended by inserting "(a)" after the word "that" in the first sentence and adding two subsections, as follows:

"(b) Notwithstanding the description set forth in subsection (a) of this section, if the Secretary should determine that the relocation of Highway 2 by the Commonwealth of Massachusetts makes it desirable to establish new boundaries in common with, contiguous or adjacent to the proposed right-of-way for that highway, he is authorized to relocate such boundaries accordingly, and shall give notice thereof by publication of a map or other suitable description in the Federal Register: *Provided*, That any net acreage increase by reason of the boundary revision and land exchanges with the Commonwealth shall not be included in calculations of acreage in regard to the limitation set forth in subsection (a) of this section, but shall be in addition thereto.

"(c) Any lands added to the Minute Man National Historical Park, pursuant to subsection (b), may be acquired only if such acquisition can be accomplished without cost for land acquisition and, when so acquired, shall be subject to all laws, rules, and regulations applicable thereto."

SEC. 2. Section 6 of the Act of September 21, 1951 (73 Stat. 590), is amended by (1) deleting "\$8,000,000" and inserting "\$13,900,000" and (2) deleting "\$5,000,000" and inserting "\$10,900,000".

Approved December 14, 1970.

Legislative History

House Report No. 91-1398 (Committee on Interior and Insular Affairs).
Senate Report No. 91-1390 (Committee on Interior and Insular Affairs).
Congressional Record, Vol. 116 (1970):
Sept. 14, considered and passed House.
Dec. 4, considered and passed Senate.

BIBLIOGRAPHY

BOSTON NATIONAL HISTORIC SITES COMMISSION

1958 "The Lexington-Concord Battle Road." Interim Report to the Congress of the United States. On file at Minute Man National Historical Park.

CARR, LYNCH ASSOCIATES

1979 "A Plan for Hanscom and Its Neighbors." Environmental Design, Cambridge, MA.

CENTRAL TRANSPORTATION PLANNING STAFF

1984 "Hanscom Area Traffic Study, Phase II." Draft. Boston, MA.

FRENCH, ALLEN

1984 The Day of Concord and Lincoln. Reprinted by Eastern National Park and Monument Association.

GROSS, ROBERT A.

1976 The Minutemen and Their World. Hill and Wang, New York.

1982 "Culture and Cultivation: Agriculture and Society in Thoreau's Concord." Journal of American History, Vol. 69(1), June 1982.

HARVARD UNIVERSITY GRADUATE SCHOOL OF DESIGN, DEPARTMENT OF LANDSCAPE ARCHITECTURE

1985 Alternative Futures for Minute Man National Historical Park. Cambridge, MA.

LAND USE CONFERENCE COMMITTEE

1983 Route to Tomorrow: Challenges and Choices. Report to the Town of Lincoln, MA.

LOTHROP, MARGARET M.

1968 The Wayside: Home of Authors. American Book Company, Reprinted 1983 by Eastern National Park and Monument Association.

MASSACHUSETTS HISTORICAL COMMISSION

1979 Cultural Resources in Massachusetts: A Model for Management.

1980 "MHC Reconnaissance Survey Report: Concord."

1980b "MHC Reconnaissance Survey Report: Lincoln."

n.d. "Comprehensive Cultural Resources Survey of Lexington," by Anne Grady and Nancy Seasholes.

MILLER, PAMELA, NATHALIE RICE, LYNNE SEELEY AND VIRGINIA STAPLES
1983 Groundwater Protection, Town of Lincoln. Prepared by Graduate Department of Urban and Environmental Policy, Tufts University.

NATIONAL PARK SERVICE, U.S. DEPARTMENT OF THE INTERIOR
1968a "Elisha Jones or 'Bullet Hole House,' Historic Structures Report," by John Luzader and Benjamin J. Zerby. Denver Service Center.

1968b Major John Buttrick House, Historic Structures Report Part 1, Historical Data Section, by John F. Luzader. Washington.

1986c "Samuel Hartwell House and Ephraim Hartwell Tavern, Historic Structures Report, Part 1, Historical Data Section," by John Luzader. Denver Service Center.

1968d The Wayside, Historic Structure Report, Part II, Historical Data Section, by Robert D. Ronsheim. Washington.

1969a Captain Brown's House, Historic Data, by Ricardo Torres-Reyes. Washington.

1969b Farming and Land Uses, General Study, Minute Man National Historical Park, by Ricardo Torres-Reyes. Washington.

1970 The Wayside Historic Grounds Report, by Anna Coxe Toogood. Washington.

1973 Historic Structure Report, The Wayside Barn Architectural Data Section, by Orville W. Carroll. Denver Service Center.

1974 Historic Structure Report, A Comparative Study, Ephraim Hartwell Tavern, by Anna Coxe Toogood. Denver Service Center.

1965 Master Plan, Minute Man National Historical Park. On file at Denver Service Center.

1976 Transportation Study, Minute Man National Historical Park. Denver Service Center.

1980 "Archeological Overview and Evaluation, Minute Man National Historical Park," by Vernon G. Baker. Boston.

n.d. "Historic Grounds Report, Battle Road: Fiske Hill Area, Minute Man National Historical Park," by John Luzader. Denver Service Center.

1982 "Cultural Resource Inventory, Minute Man National Historical Park." Boston.

1984 Quartz Flakes and Turtle Bones: The North Bridge Site at Minute Man National Historical Park, by Linda A. Towle, Boston.

1985a Archeological Collections Management at Minute Man National Historical Park, Massachusetts, by Linda A. Towle and Darcie A. MacMahon, eds. 4 vols. ACMP Series No. 4. Boston.

1985b The Scene of the Battle, 1775, Historic Grounds Report, Minute Man National Historical Park, by Joyce Malcom. Boston.

1986a Resources Management Plan, Minute Man National Historical Park. Concord, MA.

1986b "Annual Statement for Interpretation, Minute Man National Historical Park." Concord, MA.

TOWN OF CONCORD, NATURAL RESOURCES COMMISSION

1985 Town of Concord, 1985 Open Space Plan. Prepared by Conservation Restriction Advisory Committee. Concord, MA.

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As the nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to ensure the wise use of all these resources. The department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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